



STIC Search Report

Biotech-Chem Library

STIC Database Tracking Number: 151078

TO: Susan Hanley
Location: rem/3d70/3e71
Art Unit: 1651
Tuesday, April 26, 2005

Case Serial Number: 10/047251

From: Barb O'Bryen
Location: Biotech-Chem Library
Remsen 1a69
Phone: 571-272-2518 *BOB*

barbara.obryen@uspto.gov

Search Notes

10/047, 251

Text search request:

Is there any report of a compound being administered to a plant or plant cell culture in order to accomplish any of the following process:

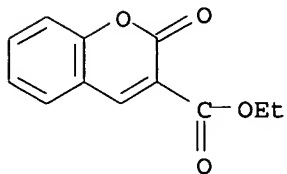
- a. Does the compound inhibit any extracellular (or extra-cellular) phosphatase in a plant?
- b. Does the compound decrease drug resistance in plants?
- c. Does the compound inhibit (down-regulate, antagonist, etc) an ABC transporter (also known as an ABC-binding cassette) in a plant cell?

All I need are the Bib Abs, no compound structures.

Thanks. Please call me if you have any questions. 2-2508

Susan

CI COM
LC STN Files: BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS,
CHEMINFORMRX, CSCHM, HODOC*, RTECS*, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)



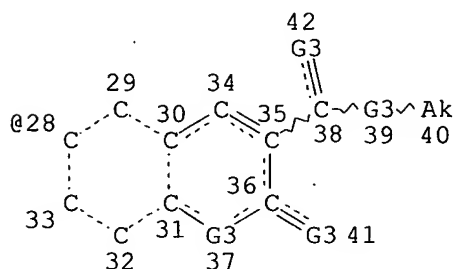
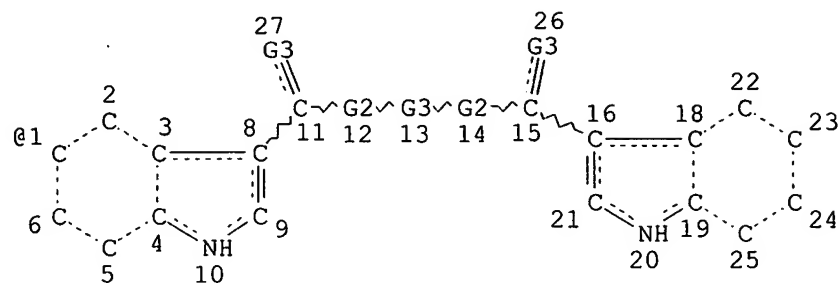
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

170 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
170 REFERENCES IN FILE CAPLUS (1907 TO DATE)
10 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

FILE 'HOME' ENTERED AT 17:12:44 ON 25 APR 2005

=>

=> d que l18; d his full 4
L3 STR



VAR G1=1/28
REP G2=(1-5) CH2
VAR G3=O/S
NODE ATTRIBUTES:
CONNECT IS E1 RC AT 40
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 41

STEREO ATTRIBUTES: NONE
L15 312262 SEA FILE=REGISTRY ABB=ON (2 333.151/RID) OR (591.146/RID OR
591.261/RID)
L18 816 SEA FILE=REGISTRY SUB=L15 SSS FUL L3

(FILE 'HOME' ENTERED AT 16:37:16 ON 25 APR 2005)

FILE 'REGISTRY' ENTERED AT 16:37:31 ON 25 APR 2005

L1 STR
L2 0 SEA SSS SAM L1
L3 STR L1
L4 0 SEA SSS SAM L3

FILE 'LREGISTRY' ENTERED AT 16:42:15 ON 25 APR 2005

L5 STR L1
L6 38 SEA SSS SAM L5
D STR RSD
D STR RSD 20
L7 STR
L8 44 SEA SSS SAM L7

D STR RSD
 D STR RSD 10
 D STR RSD 20
 D STR RSD 30
 L9 42 SEA ABB=ON C5S-C6/EA
 L10 0 SEA ABB=ON L8 AND L9
 L11 STR L7
 L12 0 SEA SSS SAM L11
 L13 7 SEA SSS FUL L11
 D STR RSD 1-3

FILE 'REGISTRY' ENTERED AT 16:46:34 ON 25 APR 2005

E 333.151/RID
 E 591.146/RID
 E 591.261/RID

FILE 'LREGISTRY' ENTERED AT 16:47:07 ON 25 APR 2005

L14 89 SEA ABB=ON 2 333.151/RID

FILE 'REGISTRY' ENTERED AT 16:47:27 ON 25 APR 2005

L15 312262 SEA ABB=ON (2 333.151/RID) OR (591.146/RID OR 591.261/RID)
 D QUE L3
 L16 0 SEA SUB=L15 SSS SAM L3
 L17 0 SEA SUB=L15 SSS SAM L3
 L18 816 SEA SUB=L15 SSS FUL L3
 SAVE TEMP L18 HAN251FULL/A
 L19 ANALYZE L18 1- LC : 21 TERMS
 D 1-21

FILE 'ZCAPLUS' ENTERED AT 16:51:43 ON 25 APR 2005

E PLANTS+ALL/CT

FILE 'REGISTRY' ENTERED AT 16:52:09 ON 25 APR 2005

L20 1 SEA ABB=ON PHOSPHATASE/CN

FILE 'STNGUIDE' ENTERED AT 16:52:16 ON 25 APR 2005

FILE 'CAPLUS' ENTERED AT 16:56:59 ON 25 APR 2005

L21 555 SEA ABB=ON L18
 L22 14285 SEA ABB=ON L20
 L23 3894 SEA ABB=ON HERBICIDE RESISTANCE/CT
 L24 25952 SEA ABB=ON DRUG RESISTANCE/CT
 L*** DEL 0 S DRUG# (L) SUSEPTIB?
 L25 7729 SEA ABB=ON PLANT CELL/CT
 L26 53514 SEA ABB=ON PLANT#/CT OR EMBRYOPHYTA/CT
 L27 321071 SEA ABB=ON PEA#/OBI OR CARROT#/OBI OR RICE/OBI OR WHEAT/OBI
 OR CORN/OBI OR SOYBEAN#/OBI OR SOY BEAN#/OBI
 L28 75717 SEA ABB=ON ZEA MAYS/OBI OR MAIZE/OBI OR GLYCINE MAX/OBI OR
 TRITICUM/OBI OR ORYZA SATIVA/OBI OR DAUCUS CAROTA/OBI OR PISUM
 SATIVUM/OBI
 L29 31428 SEA ABB=ON CROP#/OBI
 L30 1084 SEA ABB=ON ABC/OBI (W) (TRANSPORTER#/OBI OR BINDING CASSETTE#/OBI
 I)
 L31 2879 SEA ABB=ON ATP BINDING CASSETTE#/OBI
 E SUSCEPT
 L32 2483 SEA ABB=ON DRUG#/OBI (L) SUSEPTIB?/OBI
 L33 9 SEA ABB=ON L21 AND (L22 OR L23 OR L24 OR L25 OR L26 OR L27 OR
 L28 OR L29 OR L30 OR L31 OR L32)
 D SCAN
 L34 4 SEA ABB=ON L21 (L) AGR/RL

L35 11 SEA ABB=ON 5/SC,SX AND L21
E 15A/SC
L36 23905 SEA ABB=ON 15A/SC,SX
L37 3 SEA ABB=ON L21 AND L36

FILE 'STNGUIDE' ENTERED AT 17:03:03 ON 25 APR 2005

FILE 'USPATFULL' ENTERED AT 17:04:49 ON 25 APR 2005

L38 80 SEA ABB=ON L18
L39 564 SEA ABB=ON L20
L40 834 SEA ABB=ON HERBICIDE RESISTANCE/CT
L41 1064 SEA ABB=ON DRUG RESISTANCE/CT
L42 2528 SEA ABB=ON PLANT CELL/CT
L43 3334 SEA ABB=ON PLANT#/CT OR EMBRYOPHYTA/CT
L44 13658 SEA ABB=ON (PEA# OR CARROT# OR RICE OR WHEAT OR CORN OR
SOYBEAN# OR SOY BEAN#)/IT
L*** DEL 55243 S CROP#
L45 89 SEA ABB=ON (ABC(W) (TRANSPORTER# OR BINDING CASSETTE#))/IT, TI, A
B, CLM
L46 214 SEA ABB=ON (ATP BINDING CASSETTE#)/IT, TI, AB, CLM
L47 249 SEA ABB=ON (DRUG#(L) SUSCEPTIB?)/IT
L48 652 SEA ABB=ON CROP#/IT
L49 4659 SEA ABB=ON (ZEA MAYS OR MAIZE OR GLYCINE MAX OR TRITICUM OR
ORYZA SATIVA OR DAUCUS CAROTA OR PISUM SATIVUM)/IT
L50 4 SEA ABB=ON L38 AND (L39 OR L40 OR L41 OR L42 OR L43 OR L44 OR
L45 OR L46 OR L47 OR L48 OR L49)

FILE 'STNGUIDE' ENTERED AT 17:06:12 ON 25 APR 2005

FILE 'BIOSIS, TOXCENTER' ENTERED AT 17:08:50 ON 25 APR 2005

L51 60 SEA ABB=ON L18
L52 20754 SEA ABB=ON L20
L53 167544 SEA ABB=ON PHOSPHATASE#
L54 1357 SEA ABB=ON APYRASE#
L55 121731 SEA ABB=ON (SUSCEPTIB? OR RESIST?) (5A) (DRUG# OR MULTIDRUG# OR
HERBICID? OR PESTICID?)
L56 2820856 SEA ABB=ON PLANT#
L57 286201 SEA ABB=ON CROP#
L58 679166 SEA ABB=ON PEA# OR CARROT# OR RICE OR WHEAT OR CORN OR
SOYBEAN# OR SOY BEAN#
L59 2947 SEA ABB=ON ABC(W) (TRANSPORTER# OR BINDING CASSETTE#)
L60 4891 SEA ABB=ON (ATP BINDING CASSETTE#)
L61 171387 SEA ABB=ON (ZEA MAYS OR MAIZE OR GLYCINE MAX OR TRITICUM OR
ORYZA SATIVA OR DAUCUS CAROTA OR PISUM SATIVUM)
L62 8 SEA ABB=ON L51 AND (L52 OR L53 OR L54 OR L55 OR L56 OR L57 OR
L58 OR L59 OR L60 OR L61)

FILE 'REGISTRY' ENTERED AT 17:10:28 ON 25 APR 2005
D STAT QUE L18

FILE 'CAPLUS' ENTERED AT 17:10:42 ON 25 APR 2005

D QUE NOS L33
D QUE NOS L34
D QUE NOS L35
D QUE NOS L37
L63 17 SEA ABB=ON L33 OR L34 OR L35 OR L37

FILE 'USPATFULL' ENTERED AT 17:11:08 ON 25 APR 2005
D QUE NOS L50

FILE 'BIOSIS, TOXCENTER' ENTERED AT 17:11:08 ON 25 APR 2005
D QUE NOS L62

FILE 'CAPLUS, USPATFULL, BIOSIS, TOXCENTER' ENTERED AT 17:11:18 ON 25 APR 2005

L64 23 DUP REM L63 L50 L62 (6 DUPLICATES REMOVED)
ANSWERS '1-17' FROM FILE CAPLUS
ANSWERS '18-19' FROM FILE USPATFULL
ANSWERS '20-22' FROM FILE BIOSIS
ANSWER '23' FROM FILE TOXCENTER
D IBIB ED ABS HITSTR 1-19
D IALL 20-23

FILE 'STNGUIDE' ENTERED AT 17:11:50 ON 25 APR 2005

L65 FILE 'REGISTRY' ENTERED AT 17:12:36 ON 25 APR 2005
2 SEA ABB=ON 1846-76-0 OR 51081-69-7
D IDE 1-2

FILE 'HOME' ENTERED AT 17:12:44 ON 25 APR 2005
D SAVED
D QUE L18

FILE HOME

FILE REGISTRY

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 24 APR 2005 HIGHEST RN 849094-71-9

DICTIONARY FILE UPDATES: 24 APR 2005 HIGHEST RN 849094-71-9

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

FILE LREGISTRY

LREGISTRY IS A STATIC LEARNING FILE

NEW CAS INFORMATION USE POLICIES, ENTER HELP USAGETERMS FOR DETAILS.

FILE ZCAPLUS

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FILE COVERS 1907 - 25 Apr 2005 VOL 142 ISS 18
FILE LAST UPDATED: 24 Apr 2005 (20050424/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE STNGUIDE
FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Apr 22, 2005 (20050422/UP).

FILE CAPLUS

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FILE COVERS 1907 - 25 Apr 2005 VOL 142 ISS 18
FILE LAST UPDATED: 24 Apr 2005 (20050424/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE USPATFULL
FILE COVERS 1971 TO PATENT PUBLICATION DATE: 21 Apr 2005 (20050421/PD)
FILE LAST UPDATED: 21 Apr 2005 (20050421/ED)
HIGHEST GRANTED PATENT NUMBER: US6883176
HIGHEST APPLICATION PUBLICATION NUMBER: US2005086720
CA INDEXING IS CURRENT THROUGH 21 Apr 2005 (20050421/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 21 Apr 2005 (20050421/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2005
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2005

>>> USPAT2 is now available. USPATFULL contains full text of the <<<
>>> original, i.e., the earliest published granted patents or <<<
>>> applications. USPAT2 contains full text of the latest US <<<
>>> publications, starting in 2001, for the inventions covered in <<<
>>> USPATFULL. A USPATFULL record contains not only the original <<<

>>> published document but also a list of any subsequent <<<
>>> publications. The publication number, patent kind code, and <<<
>>> publication date for all the US publications for an invention <<<
>>> are displayed in the PI (Patent Information) field of USPATFULL <<<
>>> records and may be searched in standard search fields, e.g., /PN, <<<
>>> /PK, etc. <<<

>>> USPATFULL and USPAT2 can be accessed and searched together <<<
>>> through the new cluster USPATALL. Type FILE USPATALL to <<<
>>> enter this cluster. <<<
>>> <<<
>>> Use USPATALL when searching terms such as patent assignees, <<<
>>> classifications, or claims, that may potentially change from <<<
>>> the earliest to the latest publication. <<<

This file contains CAS Registry Numbers for easy and accurate
substance identification.

FILE BIOSIS

FILE COVERS 1969 TO DATE.

CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 20 April 2005 (20050420/ED)

FILE RELOADED: 19 October 2003.

FILE TOXCENTER

FILE COVERS 1907 TO 19 Apr 2005 (20050419/ED)

This file contains CAS Registry Numbers for easy and accurate substance
identification.

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TOXCENTER has been enhanced with new files segments and search fields.
See HELP CONTENT for more information.

TOXCENTER thesauri in the /CN, /CT, and /MN fields incorporate the
MeSH 2005 vocabulary. See <http://www.nlm.nih.gov/mesh/> and
http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html for a
description of changes.

=>

STIC-Biotech/ChemLib

From: Chan, Christina
Sent: Monday, April 25, 2005 2:30 PM
To: Hanley, Susan; STIC-Biotech/ChemLib
Subject: RE: RUSH request for 10/047,251
Importance: High

Please rush. Thanks Chris

Chris Chan
TC 1600 New Hire Training Coordinator and SPE 1644
(571)-272-0841
Remsen, 3E89

-----Original Message-----

From: Hanley, Susan
Sent: Monday, April 25, 2005 2:11 PM
To: Chan, Christina
Subject: RUSH request for 10/047,251

Christina,

I turned in several searches for 10/047,251 to STIC last week. I really need to get this case out (overdue amended) this biweek. Could you ask for a change to RUSH status for all of the requests that I turned in for this case and forward it to STIC?

Thanks.

*Susan Hanley
US Patent and Trademark Office
Art Unit 1651
Office: Remsen 3D70
Mail Box: Remsen 3E71
Phone: 571-272-2508*

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 12:06:15 ON 27 APR 2005

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FILE COVERS 1907 - 27 Apr 2005 VOL 142 ISS 18

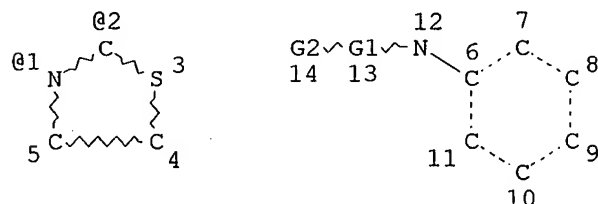
FILE LAST UPDATED: 26 Apr 2005 (20050426/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d que 136

L28 STR



REP G1=(0-1) AK

VAR G2=1/2

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC 1

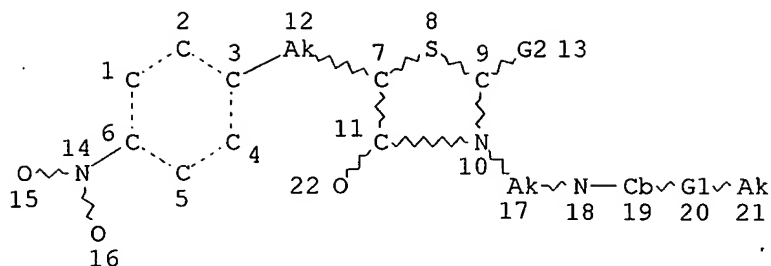
NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE

L29 SCR 1840

L31 101049 SEA FILE=REGISTRY SSS FUL L28 AND L29

L35 STR



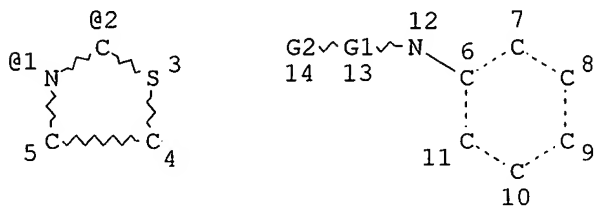
VAR G1=O/S
 VAR G2=O/C
 NODE ATTRIBUTES:
 CONNECT IS X2 RC AT 12
 CONNECT IS X2 RC AT 17
 CONNECT IS E1 RC AT 21
 DEFAULT MLEVEL IS ATOM
 GGCAT IS MCY UNS AT 19
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 22

STEREO ATTRIBUTES: NONE
 L36 1 SEA FILE=REGISTRY SUB=L31 SSS FUL L35

=> d que 144
 L28

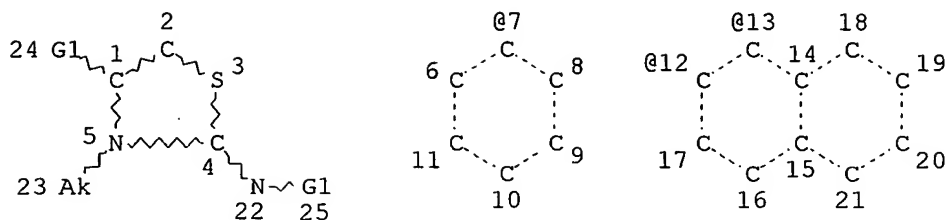
STR



REP G1=(0-1) AK
 VAR G2=1/2
 NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RSPEC 1
 NUMBER OF NODES IS 14

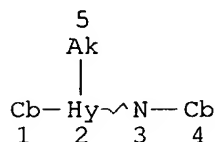
STEREO ATTRIBUTES: NONE
 L29 SCR 1840
 L31 101049 SEA FILE=REGISTRY SSS FUL L28 AND L29
 L37 STR



VAR G1=7/12/13
 NODE ATTRIBUTES:
 CONNECT IS E1 RC AT 23
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RSPEC 6 12
 NUMBER OF NODES IS 25

STEREO ATTRIBUTES: NONE
 L39 4988 SEA FILE=REGISTRY SUB=L31 SSS FUL L37
 L43 STR



NODE ATTRIBUTES:
 CONNECT IS M1 RC AT 1
 CONNECT IS M1 RC AT 4
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE
 L44 4619 SEA FILE=REGISTRY SUB=L39 CSS FUL L43

=> fil caold
 FILE 'CAOLD' ENTERED AT 12:07:23 ON 27 APR 2005
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FILE COVERS 1907-1966
 FILE LAST UPDATED: 01 May 1997 (19970501/UP)

This file contains CAS Registry Numbers for easy and accurate substance identification. Title keywords, authors, patent assignees, and patent information, e.g., patent numbers, are now searchable from 1907-1966. TIFF images of CA abstracts printed between 1907-1966 are available in the PAGE

display formats.

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file supports REGISTRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

=> d all hitstr l60 1

L60 ANSWER 1 OF 1 CAOLD COPYRIGHT 2005 ACS on STN

AN CA60:12019b CAOLD

TI thiazolines

PA CIBA Ltd.

DT Patent

PATENT NO.	KIND	DATE
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PI BE 627278

DE 1218210

FR 1347371

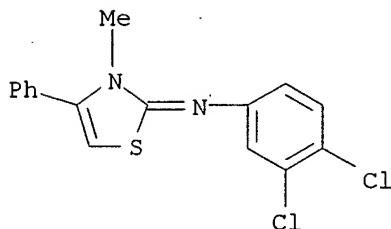
GB 1027561

IT	1643-94-3	1744-47-4	1800-94-8	1957-57-9	2192-58-7	2677-70-5
	90434-86-9	90797-74-3	91066-64-7	91088-92-5	91092-29-4	91566-52-8
	91568-29-5	92292-54-1	93001-25-3	93116-81-5	93190-15-9	93284-28-7
	93329-91-0	93387-58-7	93439-31-7	93479-33-5	93864-04-1	94095-94-0
	94625-57-7	95195-09-8	95750-58-6	95914-19-5	96080-23-8	96750-33-3
	97238-53-4	97554-72-8	98470-56-5			

IT 97554-72-8 98470-56-5

RN 97554-72-8 CAOLD

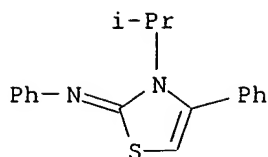
CN 4-Thiazoline, 2-[(3,4-dichlorophenyl)imino]-3-methyl-4-phenyl-, hydrobromide (7CI) (CA INDEX NAME)



● HBr

RN 98470-56-5 CAOLD

CN 4-Thiazoline, 3-isopropyl-4-phenyl-2-(phenylimino)-, hydrobromide (7CI) (CA INDEX NAME)



● HBr

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 12:08:03 ON 27 APR 2005

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FILE COVERS 1907 - 27 Apr 2005 VOL 142 ISS 18

FILE LAST UPDATED: 26 Apr 2005 (20050426/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d all hitstr l67 1

L67 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1964:68243 HCAPLUS

DN 60:68243

OREF 60:12019b-f

ED Entered STN: 22 Apr 2001

TI Thiazolines

PA CIBA Ltd.

SO 33 pp.

DT Patent

LA Unavailable

CC 38 (Heterocyclic Compounds (More Than One Hetero Atom))

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	BE 627278		19630718	BE	
	DE 1218210			DE	
	FR 1347371			FR	
	GB 1027561			GB	

PRAI CH

19620109

CLASS

PATENT NO.

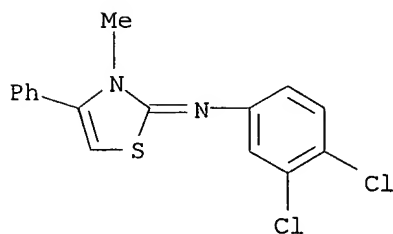
CLASS

PATENT FAMILY CLASSIFICATION CODES

- GI For diagram(s), see printed CA Issue.
- AB The title compds. (I) tabulated are prepared by the reaction between a monosubstituted thiourea and an α -halocarbonyl compound, and eventually alkylation of the formed derivative, or from a N,N'-disubstituted thiourea and an α -halocarbonyl compound. The reaction is effected in nonpolar solvents, preferably MePh. I are useful as fungicides, bactericides, acaricides, insecticides, and as herbicides and weedkillers. To a toluene suspension of 81.5 g. 3,5-(F3C)2C6H3NHCSNHMe is added, at 90° and under stirring, 25 g. ClCH2COMe. The solution is boiled for 15 min. to give on cooling 65% I.HCl [R' = 3,5(F3C)2C6H3, R2 = R3 = Me, R4 = H]; free base m. 87° (aqueous EtOH). m.p., m.p.; R1, R2, R3, R4, HCl salt, base; p-ClC6H4, Me, Me, H, 193-5°, 67-8°; m-F3CC6H4, Me, Me, H, 189-200°, -; Ph, Me, Me, H, -, 72-4°; 3,4-Cl2C6H3, Me, Me, H, 193-205°, 68.5-9.5°; CH2:CHCH2, Me, Me, H, -, (b0.04 80°); m-F3CC6H4, Et, Me, H, 183-93°, -; -3,4-Cl2C6H3, Et, Me, H, 170-6°, -; -3,4-Cl2C6H3, Me, H, H, 191-9°, -; m-F3CC6H4, Me, H, H, -, b0.03 136-9°; Ph, Me2N, Me, H, 176-91° -; Ph, iso-Pr, Ph, H, (HBr salt 196-200°), -; m-MeC6H4, Me, Me, H, -, 48-50°; m-ClC6H4, Me, Me, EtO2C, 137-45°, 89-91°; 3,4-Cl2C6H3, Me, Me, EtO2C, 137°, -; 3,4-Cl2C6H3, Me, H, H, 191-9°, -; m-ClC6H4, Me, Me, H, 214°, -; o-MeOC6H4, Me, Me, H, 192-5°, 118-20°; Ph, iso-Pr, Me, H, (perchlorate 148°); -; m-F3CC6H4, H, H, H, 98-107°, -; p-ClC6H4, Me, H, H, 238°, -; Cl2H25, Me, H, H, -, b0.04 148-50°; Cl2H25, Me, Me, H, -, (b0.03 130°); p-BrC6H4, Me, Me, H, 211-13°, -; p-BuOC6H4, Me, H, H, -, -; p-(p-ClC6H4O)C6H4, Me, Me, H, -, -; 3,4-Cl2C6H3, Me, Ph, H, (HBr salt 235-8°), -;
- IT Bactericides, Disinfectants and Antiseptics
(4-thiazoline derivs. as)
- IT Fungicides or Fungistats
Herbicides
Insecticides
(4-thiazolines as)
- IT 4-Thiazoline, 3-isopropyl-4-methyl-2-(phenylimino)-, hydrobromide
- IT 6569-17-1, 4-Thiazoline 27394-31-6, 3-Pyrazolidinone, 4-hydroxy-5-phenyl-
(derivs.)
- IT 1643-94-3, 4-Thiazoline, 2-[($\alpha,\alpha,\alpha,\alpha',\alpha'$,.al pha.'-hexafluoro-3,5-xylyl)imino]-3,4-dimethyl- 1744-47-4, 4-Thiazoline, 3-methyl-2-[(α,α,α -trifluoro-m-tolyl)imino]-
1800-94-8, 4-Thiazoline, 2-[(α,α,α -trifluoro-m-tolyl)imino]-, hydrochloride 1957-57-9, 4-Thiazoline, 3-ethyl-4-methyl-2-[(α,α,α -trifluoro-m-tolyl)imino]-, hydrochloride 2192-58-7, 4-Thiazoline, 2-[($\alpha,\alpha,\alpha,\alpha'$,.alph a.' α',α' -hexafluoro-3,5-xylyl)imino]-3,4-dimethyl-, hydrochloride 2677-70-5, 4-Thiazoline, 3,4-dimethyl-2-[(α,α,α -trifluoro-m-tolyl)imino]-, hydrochloride
21257-27-2, Antipyrine, 4-(α -anilinobenzyl)- 21257-28-3, Antipyrine, 4-[α -(p-bromoanilino)benzyl]- 21257-29-4, Antipyrine, 4-[α -(m-chloroanilino)benzyl]- 90434-86-9, 4-Thiazoline, 2-(allylimino)-3,4-dimethyl- 90797-74-3, 4-Thiazoline, 2-[(p-chlorophenyl)imino]-3-methyl- 91066-64-7, 4-Thiazoline, 2-[(p-chlorophenyl)imino]-3,4-dimethyl- 91088-92-5, 4-Thiazoline, 3,4-dimethyl-2-(phenylimino)- 91092-29-4, 4-Thiazoline,

2-[(3,4-dichlorophenyl)imino]-3,4-dimethyl- 91566-52-8, 4-Thiazoline,
 2-[(o-methoxyphenyl)imino]-3,4-dimethyl- 91568-29-5, 4-Thiazoline,
 3-ethyl-4-methyl-2-(phenylimino)- 92292-54-1, 4-Thiazoline,
 2-[(p-butoxyphenyl)imino]-3-methyl- 93001-25-3, 4-Thiazoline,
 3,4-dimethyl-2-(m-tolylimino)- 93116-81-5, 4-Thiazoline,
 2-[(3,4-dichlorophenyl)imino]-3-methyl-, hydrochloride 93190-15-9,
 4-Thiazoline, 2-(dodecylimino)-3-methyl- 93284-28-7, 4-Thiazoline,
 2-[(p-chlorophenyl)imino]-3,4-dimethyl-, hydrochloride 93329-91-0,
 4-Thiazoline, 2-[[p-(p-chlorophenoxy)phenyl]imino]-3,4-dimethyl-
 93387-58-7, 4-Thiazoline, 2-[(m-chlorophenyl)imino]-3,4-dimethyl-,
 hydrochloride 93439-31-7, 4-Thiazoline, 2-[(p-chlorophenyl)imino]-3-
 methyl-, hydrochloride 93479-33-5, 4-Thiazoline, 2-(dodecylimino)-3,4-
 dimethyl- 93864-04-1, 4-Thiazoline-5-carboxylic acid,
 2-[(m-chlorophenyl)imino]-3,4-dimethyl-, ethyl ester 94095-94-0,
 4-Thiazoline, 2-[(p-bromophenyl)imino]-3,4-dimethyl-, hydrochloride
 94625-57-7, 4-Thiazoline, 2-[(3,4-dichlorophenyl)imino]-3,4-dimethyl-,
 hydrochloride 95195-09-8, 4-Thiazoline, 2-[(3,4-dichlorophenyl)imino]-3-
 ethyl-4-methyl-, hydrochloride 95750-58-6, 4-Thiazoline,
 2-[(o-methoxyphenyl)imino]-3,4-dimethyl-, hydrochloride 95914-19-5,
 4-Thiazoline-5-carboxylic acid, 2-[(3,4-dichlorophenyl)imino]-3,4-dimethyl-
 , ethyl ester, hydrochloride 96080-23-8, 4-Thiazoline,
 3-(dimethylamino)-4-methyl-2-(phenylimino)-, hydrochloride 96750-33-3,
 4-Thiazoline, 3-isopropyl-4-methyl-2-(phenylimino)-, perchlorate
 97238-53-4, 4-Thiazoline-5-carboxylic acid, 2-[(m-chlorophenyl)imino]-3,4-
 dimethyl-, ethyl ester, hydrochloride **97554-72-8**, 4-Thiazoline,
 2-[(3,4-dichlorophenyl)imino]-3-methyl-4-phenyl-, hydrobromide
 (preparation of)

IT **97554-72-8**, 4-Thiazoline, 2-[(3,4-dichlorophenyl)imino]-3-methyl-4-
 phenyl-, hydrobromide
 (preparation of)
 RN 97554-72-8 HCAPLUS
 CN 4-Thiazoline, 2-[(3,4-dichlorophenyl)imino]-3-methyl-4-phenyl-,
 hydrobromide (7CI) (CA INDEX NAME)



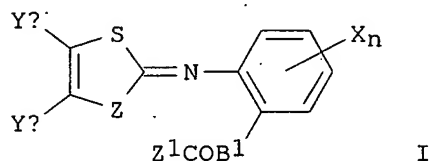
● HBr

=> d 168 1,2,4,6,7 bib abs hitstr retable

L68 ANSWER 1 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2004:492619 HCAPLUS
 DN 141:54324
 TI Preparation of phenyl carbamates and their use as **agrochemical**
fungicides and insecticides
 IN Niki, Toshio; Mizukoshi, Takashi; Suzuki, Hiroyuki; Hayasaka, Fumio

PA Nissan Chemical Industries, Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 78 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

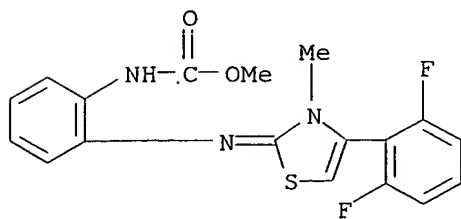
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004168706	A2	20040617	JP 2002-336326	20021120
PRAI	JP 2002-336326		20021120		
OS	MARPAT 141:54324				
GI					



AB Title compds. I [Ya, Yb = H, halo, C1-6 (halo)alkyl, (un)substituted Ph, (un)substituted heteroaryl; Z = O, S; Z1 = OR1, SR1, NR2R3; B1 = N(OR4), NR5, O, S; X = halo, C1-6 (halo)alkyl, C1-6 alkoxy; R1-R4 = H, C1-6 alkyl; R5 = H, C1-6 (halo)alkyl, C1-6 alkylsulfenyl-C1-6 alkyl, etc.; n = 0-4] or their **agriculturally** acceptable salts are prepared Thus, 2-[[(dimethylamino)thioxomethyl]amino]-nitrobenzene was treated with 2-bromo-1-(5-trifluoromethyl-1-methylpyrazol-3-yl)-1-propanone, hydrogenated with NaBH4, and condensed with Me chloroformate to give I (Ya = Me, Yb = 5-fluoromethyl-1-methylpyrazol-3-yl, Z = O, Z1COB1 = MeO2CNH, Xn = H), which showed $\geq 70\%$ antifungal activity against Erysiphe graminis.

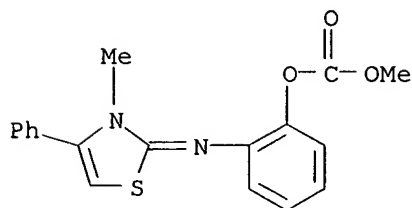
IT 481057-15-2P 481062-58-2P 481062-59-3P
 481062-62-8P 481062-64-0P 481062-68-4P
 481062-70-8P 481062-71-9P 481062-72-0P
 RL: AGR (Agricultural use); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of Ph carbamates as **agrochem.** fungicides and **insecticides**)

RN 481057-15-2 HCAPLUS
 CN Carbamic acid, [2-[[4-(2,6-difluorophenyl)-3-methyl-2(3H)-thiazolylidene]amino]phenyl]-, methyl ester (9CI) (CA INDEX NAME)



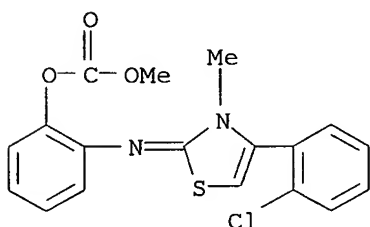
RN 481062-58-2 HCAPLUS
 CN Carbonic acid, methyl 2-[(3-methyl-4-phenyl-2(3H)-

thiazolylidene)amino]phenyl ester (9CI) (CA INDEX NAME)



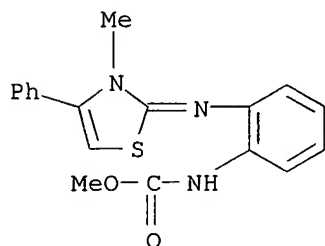
RN 481062-59-3 HCAPLUS

CN Carbonic acid, 2-[[4-(2-chlorophenyl)-3-methyl-2(3H)-thiazolylidene]amino]phenyl methyl ester (9CI) (CA INDEX NAME)



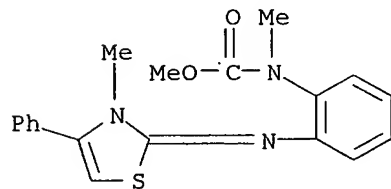
RN 481062-62-8 HCAPLUS

CN Carbamic acid, [2-[(3-methyl-4-phenyl-2(3H)-thiazolylidene)amino]phenyl]-, methyl ester (9CI) (CA INDEX NAME)



RN 481062-64-0 HCAPLUS

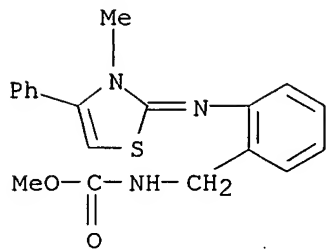
CN Carbamic acid, methyl[2-[(3-methyl-4-phenyl-2(3H)-thiazolylidene)amino]phenyl]-, methyl ester (9CI) (CA INDEX NAME)



RN 481062-68-4 HCAPLUS

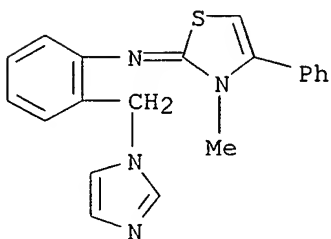
CN Carbamic acid, [[2-[(3-methyl-4-phenyl-2(3H)-thiazolylidene)amino]phenyl]m

ethyl]-, methyl ester (9CI) (CA INDEX NAME)



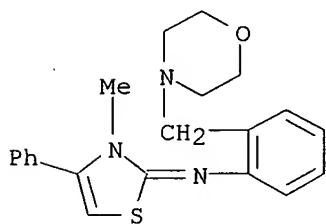
RN 481062-70-8 HCAPLUS

CN Benzenamine, 2-[(1H-imidazol-1-ylmethyl)-N-(3-methyl-4-phenyl-2(3H)-thiazolylidene)]- (9CI) (CA INDEX NAME)



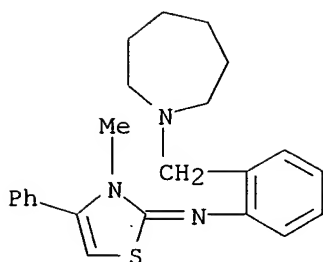
RN 481062-71-9 HCAPLUS

CN Benzenamine, N-(3-methyl-4-phenyl-2(3H)-thiazolylidene)-2-(4-morpholinylmethyl)- (9CI) (CA INDEX NAME)



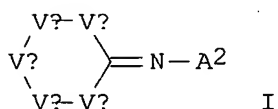
RN 481062-72-0 HCAPLUS

CN Benzenamine, 2-[(hexahydro-1H-azepin-1-yl)methyl]-N-(3-methyl-4-phenyl-2(3H)-thiazolylidene)- (9CI) (CA INDEX NAME)



L68 ANSWER 2 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2003:470483 HCAPLUS
 DN 139:36541
 TI Preparation of heterocyclylimino aromatic compounds as
 agricultural and horticultural fungicides
 IN Niki, Toshio; Mizukoshi, Takashi; Io, Tomoaki; Suzuki, Hiroyuki; Hayasaka,
 Fumio
 PA Nissan Chemical Industries, Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 131 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003171370	A2	20030620	JP 2002-184842	20020625
PRAI	JP 2001-193535	A	20010626		
	JP 2001-299551	A	20010928		
OS	MARPAT 139:36541				
GI					



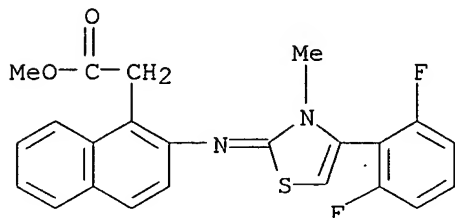
AB The title compds. (I; Va, Vb, Vc, Vd = C, N, O, or S atom; Ve = C, N, O, or S atom or a single bond; provided that at least one of Va, Vb, Vc, Vd, and Ve is N, O, or S atom; each Va-Vb, Vb-Vc, Vc-Vd, or Vd-Ve is a single or double bond; A2 = naphthyl, heterocyclyl such as substituted pyrazolyl, pyridyl, 3-thienyl, 2-pyrrolyl, 2-imidazolyl, and 1,2,4-triazol-3-yl) are prepared. Thus, phenacyl bromide was added to a solution of 2-[1,3-dimethyl-4-[(methylamino)thioxomethyl]amino]pyrazol-5-yl]acetic acid Me ester in DMF and heated at 80° for 3 h with stirring to give 2-[1,3-dimethyl-4-[(5-methyl-4-phenyl-2,3-dihydro-2-thiazolylidene)amino]pyrazol-5-yl]acetic acid Me ester (II). II at 500 ppm controlled ≥70% Puccinia recondita on wheat seedlings.

IT 544443-58-5P
 RL: AGR (Agricultural use); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of heterocyclylimino aromatic compds. as agricultural

and horticultural fungicides)

RN 544443-58-5 HCAPLUS

CN 1-Naphthaleneacetic acid, 2-[[4-(2,6-difluorophenyl)-3-methyl-2(3H)-thiazolylidene]amino]-, methyl ester (9CI) (CA INDEX NAME)



L68 ANSWER 4 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:504619 HCAPLUS

DN 137:63241

TI Preparation of 3- or 4-(aminothiazolyl)benzenesulfonamides as
parasiticidesIN Fruechtel, Joerg; Koch, Sandra; Newton, Trevor; Miculka, Christian;
McConnell, Darryl; Hofmann, Joachim

PA Akzo Nobel N.V., Neth.

SO PCT Int. Appl., 25 pp.

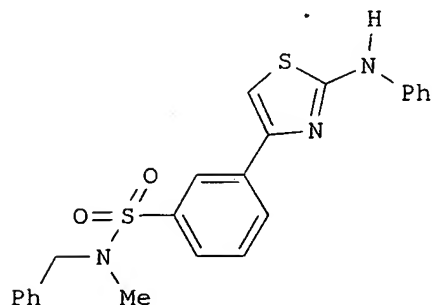
CODEN: PIXXD2

DT **Patent**

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002051410	A2	20020704	WO 2001-EP15119	20011219
	WO 2002051410	A3	20030731		
	W:	AE, AG, AL, AU, BA, BB, BG, BR, BZ, CA, CN, CO, CR, CU, CZ, DM, DZ, EC, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MA, MG, MK, MN, MX, MZ, NO, NZ, PH, PL, RO, RU, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, ZA			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
PRAI	EP 2000-204739	A	20001222		
OS	MARPAT 137:63241				
GI					



II

AB R2Z2ZZ1R1 [I; R1 = alk(en)yl, (hetero)aryl, etc.; R2 = Z3NR7R8; R7,R8 = H alkyl, aryl, etc.; Z = (un)substituted thiazole-4,2-diyl; Z1 = bond or (un)substituted imino; Z2 = (un)substituted phenylene; Z3 = bond, CO, SO2] were prepared. Thus, 3-(ClO2S)C6H4COCH2Br was cyclocondensed with PhNHCSNH2 and the product amidated by PhCH2NHMe to give title compound II. Data for biol. activity of I were given.

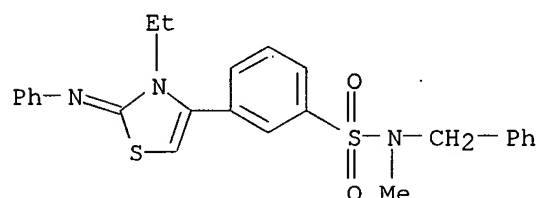
IT 439696-67-0P 439696-69-2P 439696-70-5P
439696-71-6P 439696-72-7P 439696-73-8P
439696-74-9P 439696-75-0P 439696-76-1P
439696-79-4P 439696-80-7P

RL: CPN (Combinatorial preparation); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); CMBI (Combinatorial study); PREP (Preparation); USES (Uses)

(preparation of 3- or 4-(aminothiazolyl)benzenesulfonamides as parasiticides)

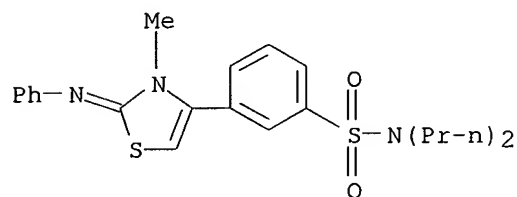
RN 439696-67-0 HCAPLUS

CN Benzenesulfonamide, 3-[3-ethyl-2,3-dihydro-2-(phenylimino)-4-thiazolyl]-N-methyl-N-(phenylmethyl)- (9CI) (CA INDEX NAME)



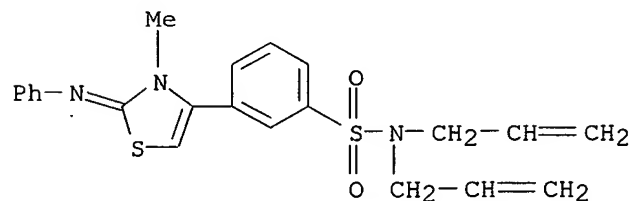
RN 439696-69-2 HCAPLUS

CN Benzenesulfonamide, 3-[2,3-dihydro-3-methyl-2-(phenylimino)-4-thiazolyl]-N,N-dipropyl- (9CI) (CA INDEX NAME)



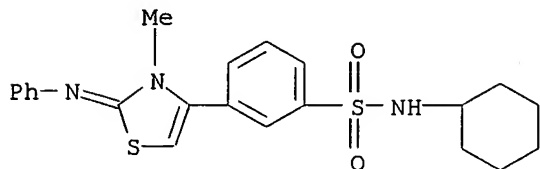
RN 439696-70-5 HCAPLUS

CN Benzenesulfonamide, 3-[2,3-dihydro-3-methyl-2-(phenylimino)-4-thiazolyl]-N,N-di-2-propenyl- (9CI) (CA INDEX NAME)



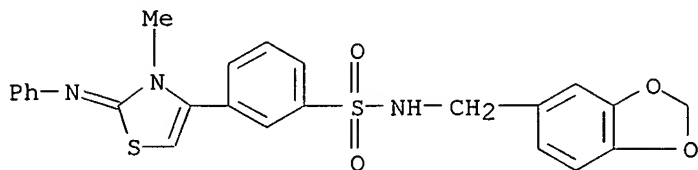
RN 439696-71-6 HCAPLUS

CN Benzenesulfonamide, N-cyclohexyl-3-[2,3-dihydro-3-methyl-2-(phenylimino)-4-thiazolyl]- (9CI) (CA INDEX NAME)



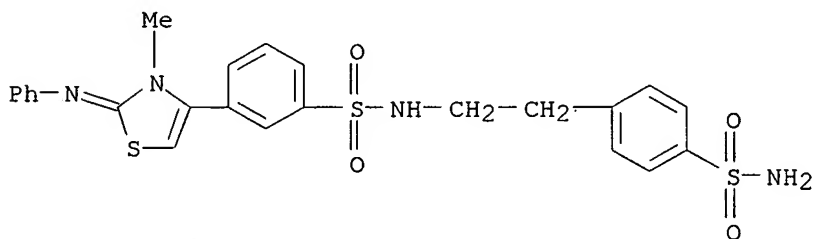
RN 439696-72-7 HCAPLUS

CN Benzenesulfonamide, N-(1,3-benzodioxol-5-ylmethyl)-3-[2,3-dihydro-3-methyl-2-(phenylimino)-4-thiazolyl]- (9CI) (CA INDEX NAME)



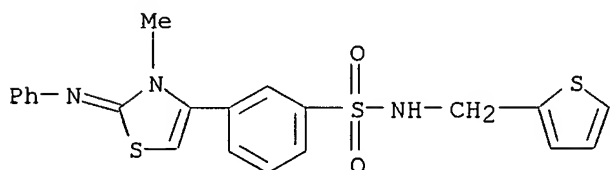
RN 439696-73-8 HCAPLUS

CN Benzenesulfonamide, N-[2-[4-(aminosulfonyl)phenyl]ethyl]-3-[2,3-dihydro-3-methyl-2-(phenylimino)-4-thiazolyl]- (9CI) (CA INDEX NAME)



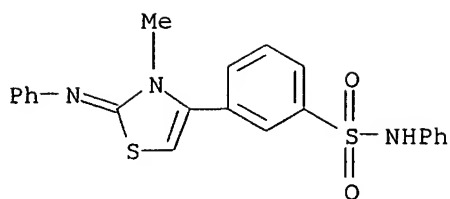
RN 439696-74-9 HCAPLUS

CN Benzenesulfonamide, 3-[2,3-dihydro-3-methyl-2-(phenylimino)-4-thiazolyl]-N-(2-thienylmethyl)- (9CI) (CA INDEX NAME)



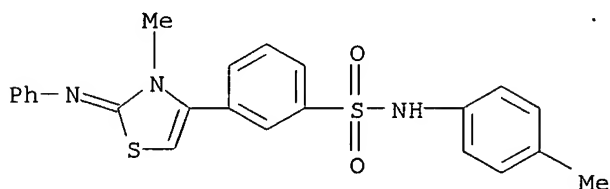
RN 439696-75-0 HCAPLUS

CN Benzenesulfonamide, 3-[2,3-dihydro-3-methyl-2-(phenylimino)-4-thiazolyl]-N-phenyl- (9CI) (CA INDEX NAME)



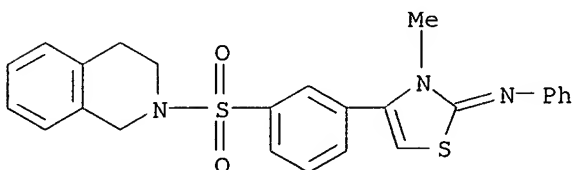
RN 439696-76-1 HCAPLUS

CN Benzenesulfonamide, 3-[2,3-dihydro-3-methyl-2-(phenylimino)-4-thiazolyl]-N-(4-methylphenyl)- (9CI) (CA INDEX NAME)



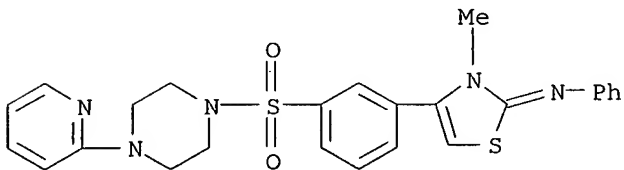
RN 439696-79-4 HCAPLUS

CN Isoquinoline, 2-[[3-[2,3-dihydro-3-methyl-2-(phenylimino)-4-thiazolyl]phenyl]sulfonyl]-1,2,3,4-tetrahydro- (9CI) (CA INDEX NAME)



RN 439696-80-7 HCAPLUS

CN Piperazine, 1-[[3-[2,3-dihydro-3-methyl-2-(phenylimino)-4-thiazolyl]phenyl]sulfonyl]-4-(2-pyridinyl)- (9CI) (CA INDEX NAME)



L68 ANSWER 6 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1991:116937 HCAPLUS

DN 114:116937

TI Preparation of thiazolines as insecticides and acaricides

IN Nagasaki, Fumihiko; Suzuki, Junji; Ono, Ippei; Yamada, Tomio; Takahashi, Eiko; Hatano, Renpei

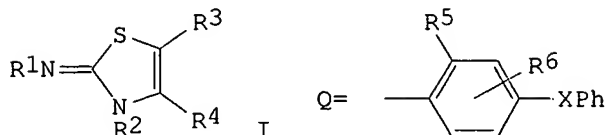
PA Nippon Soda Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02235877	A2	19900918	JP 1989-55425	19890308
PRAI	JP 1989-55425		19890308		
OS	MARPAT 114:116937				
GI					



AB **Insecticides** and acaricides contain ≥ 1 thiazolines I (R1, R2 = lower alkyl, Q; R3, R4 = H, halo-substituted lower alkyl or Ph; R5 = lower alkyl; R6 = H, lower alkyl; X = CHR7; R7 = H, lower alkyl), prepared from R1NHCSNHR2 (II) and YCHR3CR4rlr2 (Y = halo; rl, r2 = lower alkoxy, rlr2 = O) as active ingredients. A solution of 1.9 g II (R1 = Me3C, R2 = 2,6-diisopropyl-4-benzylphenyl) in MeEtCO was refluxed with 1.3 g 1,3-dichloroacetone for 1 h to give 2.1 g I (R1 = Me3C, R2 = 2,6-diisopropyl-4-benzylphenyl, R3 = H, R4 = CH2Cl) (III). III 20, higher alc. sulfate esters 5, diatomaceous earth 70, and white carbon 5 parts were mixed to give a wettable powder, which was applied at 125 ppm to sweet potato leaves to result in 100% **insecticidal** effect against *Spodoptera litura*.

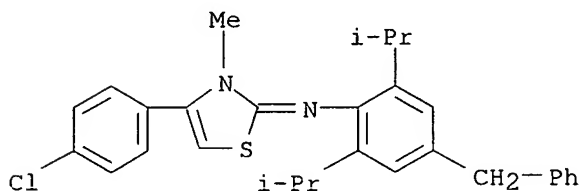
IT 132570-40-2 132570-41-3 132570-42-4
 132570-43-5 132570-44-6

RL: BIOL (Biological study)

(agrochem. insecticides and acaricides containing, preparation of)

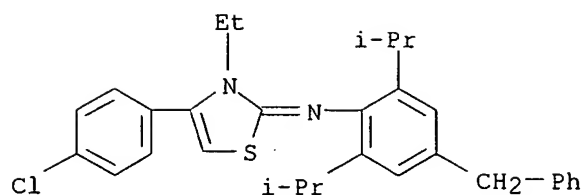
RN 132570-40-2 HCAPLUS

CN Benzenamine, N-[4-(4-chlorophenyl)-3-methyl-2(3H)-thiazolylidene]-2,6-bis(1-methylethyl)-4-(phenylmethyl)- (9CI) (CA INDEX NAME)

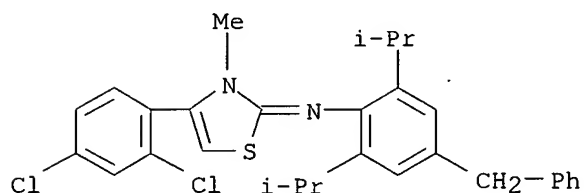


RN 132570-41-3 HCAPLUS

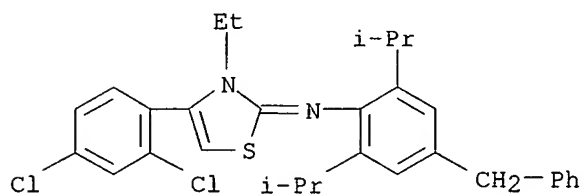
CN Benzenamine, N-[4-(4-chlorophenyl)-3-ethyl-2(3H)-thiazolylidene]-2,6-bis(1-methylethyl)-4-(phenylmethyl)- (9CI) (CA INDEX NAME)



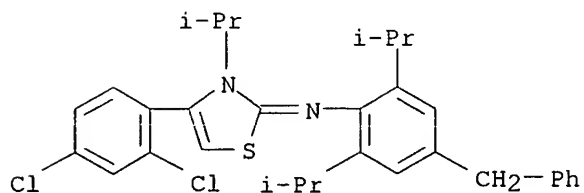
RN 132570-42-4 HCAPLUS
 CN Benzenamine, N-[4-(2,4-dichlorophenyl)-3-methyl-2(3H)-thiazolylidene]-2,6-bis(1-methylethyl)-4-(phenylmethyl)- (9CI) (CA INDEX NAME)



RN 132570-43-5 HCAPLUS
 CN Benzenamine, N-[4-(2,4-dichlorophenyl)-3-ethyl-2(3H)-thiazolylidene]-2,6-bis(1-methylethyl)-4-(phenylmethyl)- (9CI) (CA INDEX NAME)



RN 132570-44-6 HCAPLUS
 CN Benzenamine, N-[4-(2,4-dichlorophenyl)-3-(1-methylethyl)-2(3H)-thiazolylidene]-2,6-bis(1-methylethyl)-4-(phenylmethyl)- (9CI) (CA INDEX NAME)



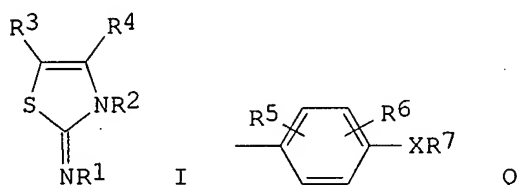
L68 ANSWER 7 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1989:192810 HCAPLUS
 DN 110:192810
 TI Preparation of thiazoline derivatives as acaricides and insecticides

IN Nagasaki, Fumihiko; Yamada, Tomio; Takahashi, Eiko; Kitagawa, Yukio;
 Hatano, Renpei
 PA Nippon Soda Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF

DT Patent
 LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63250371	A2	19881018	JP 1987-82455	19870403
	JP 07116168	B4	19951213		
PRAI	JP 1987-82455		19870403		
OS	MARPAT 110:192810				
GI					



AB Title compds. I [R¹, R² = (Ph-substituted) alkyl, cycloalkyl, Q wherein R⁵ = alkyl, alkylamino, R⁶ = H, alkyl, alkylamino, R⁷ = (halo- or haloalkyl-substituted) Ph or pyridyl; X = O, S; at least one of R¹ and R² = Q; R³, R⁴ = H, halo, (halo-substituted) alkyl or Ph] are prepared by cyclocondensation of R¹NHC(:S)NHR² with R³CHX¹CR⁴R⁸R⁹ (X¹ = halo; R⁸, R⁹ = alkoxy or R¹R² = O). A solution of ClCH₂COMe and 2,6,4-Me₂(PhO)C₆H₂NHC(:S)NHCMe₃ in EtCOMe was refluxed to give I [R¹ = Me₃C; R² = 2,6,4-Me₂(PhO)C₆H₂; R³ = H; R⁴ = Me], which at 125 ppm showed 100% control of imagoes of Tetranychus urticae, vs. 0% for a known I [R¹ = p-(p-ClC₆H₄O)C₆H₄; R² = R⁴ = Me; R³ = H]. An emulsion was formulated containing I 10, alkyl phenyl polyoxyethylene 5, DMF 50, and xylene 35 parts.

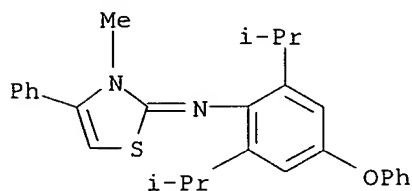
IT 120258-91-5P 120258-92-6P 120258-93-7P
 120258-94-8P 120258-95-9P 120258-98-2P
 120258-99-3P 120259-00-9P

RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of, as insecticide and acaricide)

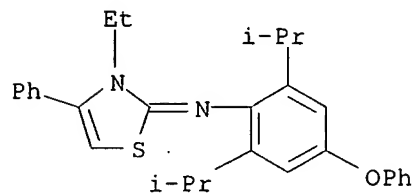
RN 120258-91-5 HCAPLUS

CN Benzenamine, 2,6-bis(1-methylethyl)-N-(3-methyl-4-phenyl-2(3H)-thiazolylidene)-4-phenoxy- (9CI) (CA INDEX NAME)



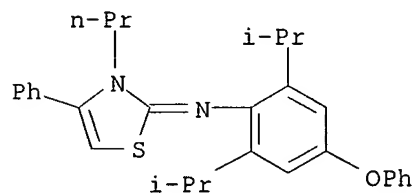
RN 120258-92-6 HCAPLUS

CN Benzenamine, N-(3-ethyl-4-phenyl-2(3H)-thiazolylidene)-2,6-bis(1-methylethyl)-4-phenoxy- (9CI) (CA INDEX NAME)



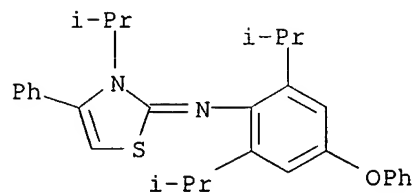
RN 120258-93-7 HCAPLUS

CN Benzenamine, 2,6-bis(1-methylethyl)-4-phenoxy-N-(4-phenyl-3-propyl-2(3H)-thiazolylidene)- (9CI) (CA INDEX NAME)



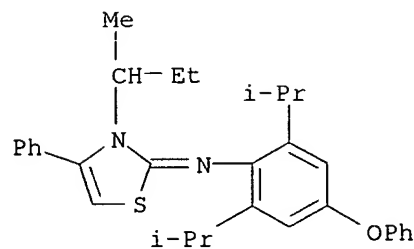
RN 120258-94-8 HCAPLUS

CN Benzenamine, 2,6-bis(1-methylethyl)-N-[3-(1-methylethyl)-4-phenyl-2(3H)-thiazolylidene]-4-phenoxy- (9CI) (CA INDEX NAME)



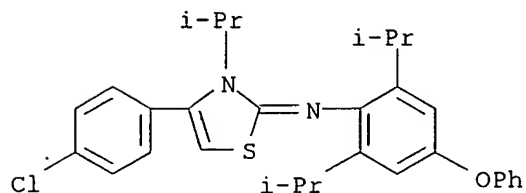
RN 120258-95-9 HCAPLUS

CN Benzenamine, 2,6-bis(1-methylethyl)-N-[3-(1-methylpropyl)-4-phenyl-2(3H)-thiazolylidene]-4-phenoxy- (9CI) (CA INDEX NAME)



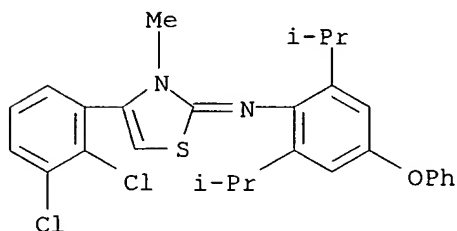
RN 120258-98-2 HCAPLUS

CN Benzenamine, N-[4-(4-chlorophenyl)-3-(1-methylethyl)-2(3H)-thiazolylidene]-2,6-bis(1-methylethyl)-4-phenoxy- (9CI) (CA INDEX NAME)



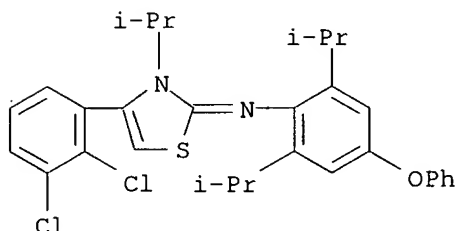
RN 120258-99-3 HCAPLUS

CN Benzenamine, N-[4-(2,3-dichlorophenyl)-3-methyl-2(3H)-thiazolylidene]-2,6-bis(1-methylethyl)-4-phenoxy- (9CI) (CA INDEX NAME)



RN 120259-00-9 HCAPLUS

CN Benzenamine, N-[4-(2,3-dichlorophenyl)-3-(1-methylethyl)-2(3H)-thiazolylidene]-2,6-bis(1-methylethyl)-4-phenoxy- (9CI) (CA INDEX NAME)



=> d 168 3,5 bib abs hitrn fhitstr retable

L68 ANSWER 3 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:5930 HCAPLUS

DN 138:73261

TI Preparation of heterocyclyliminophenyl compounds as **agricultural** and horticultural fungicides and **insecticides**

IN Niki, Toshio; Mizukoshi, Takashi; Takahashi, Hiroaki; Satow, Jun; Ogura, Tomoyuki; Yamagishi, Kazuhiro; Suzuki, Hiroyuki; Hayasaka, Fumio

PA Nissan Chemical Industries, Ltd., Japan

SO PCT Int. Appl., 508 pp.

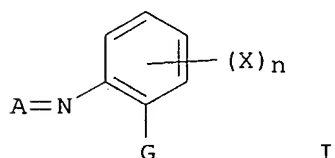
CODEN: PIXXD2

DT **Patent**

LA Japanese

FAN.CNT 1

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PI	WO 2003000659	A1	20030103	WO 2002-JP6424	20020626
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	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	JP 2004002250	A2	20040108	JP 2002-184667	20020625
PRAI	JP 2001-192285	A	20010626		
	JP 2001-193428	A	20010626		
	JP 2001-385120	A	20011218		
	JP 2001-386846	A	20011220		
	JP 2002-90213	A	20020328		
OS	MARPAT 138:73261				
GI					



AB The title compds. I [A is an optionally substituted heterocycle; X is hydrogen or the like; and G is CH₂COOMe, N(Me)COOMe, or the like; n = 0 - 4] are prepared Compds. of this invention at 500 ppm gave $\geq 70\%$ control of *Pyricularia oryzae*.

IT 347871-82-3P 347871-85-6P 347871-89-0P
 347871-92-5P 347871-95-8P 347871-97-0P
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 481062-72-0P 481062-74-2P

RL: AGR (Agricultural use); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of heterocyclyliminophenyl compds. as agricultural and horticultural fungicides and insecticides)

IT 481065-52-5P 481065-53-6P 481065-54-7P
 481065-55-8P 481065-57-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of heterocyclyliminophenyl compds. as agricultural

and horticultural fungicides and insecticides)

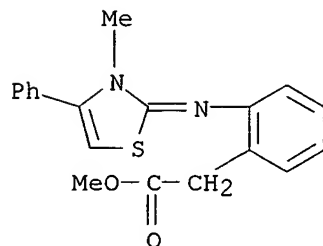
IT 347871-82-3P

RL: AGR (Agricultural use); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of heterocyclyliminophenyl compds. as agricultural and horticultural fungicides and insecticides)

RN 347871-82-3 HCAPLUS

CN Benzeneacetic acid, 2-[(3-methyl-4-phenyl-2(3H)-thiazolylidene)amino]-, methyl ester (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Boots Co Plc	1990			JP 02229148 A	HCAPLUS
Boots Co Plc	1990			GB 2226562 A1	HCAPLUS
Boots Co Plc	1990			EP 385038 A1	HCAPLUS
Boots Co Plc	1990			US 5223498 A	HCAPLUS
Boots Co Plc	1990			US 5373008 A	HCAPLUS
Dai Nippon Printing Co	1991			JP 03-16792 A	HCAPLUS
Dai Nippon Printing Co	1991			US 5021394 A	HCAPLUS
Fuji Photo Film Co Ltd	1993			JP 03-244593 A	HCAPLUS
Fuji Photo Film Co Ltd	1993			JP 05-177959 A2	HCAPLUS
Fuji Photo Film Co Ltd	1993			JP 05-202305 A	HCAPLUS
Fuji Photo Film Co Ltd	1993			JP 05-70704 A	HCAPLUS
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Kalcheva, V	1993		1319	Liebigs Ann Chem	HCAPLUS
Nissan Chemical Industr	2001			WO 0147888 A1	HCAPLUS
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Sumitomo Chemical Co Lt	1988			US 5061796 A	HCAPLUS
Sumitomo Chemical Co Lt	1988			US 5136054 A	HCAPLUS
Sumitomo Chemical Co Lt	1988			US 5220027 A	HCAPLUS

L68 ANSWER 5 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:489370 HCAPLUS

DN 135:76866

TI Preparation of heterocyclic imino compounds as fungicides and insecticides for agricultural and horticultural use

IN Niki, Toshio; Mizukoshi, Takashi; Takahashi, Hiroaki; Satow, Jun; Ogura, Tomoyuki; Yamagishi, Kazuhiro; Suzuki, Hiroyuki; Hayasaka, Fumio

PA Nissan Chemical Industries, Ltd., Japan

SO PCT Int. Appl., 350 pp.

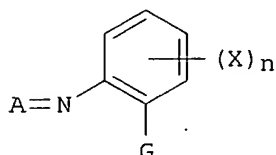
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DT Patent

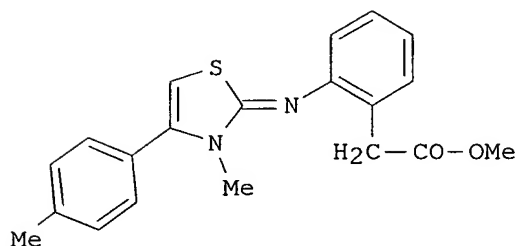
LA Japanese

FAN.CNT 1

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PI	WO 2001047888	A1	20010705	WO 2000-JP9411	20001228
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	AU 2001022305	A5	20010709	AU 2001-22305	20001228
	EP 1243580	A1	20020925	EP 2000-985987	20001228
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	US 2003212116	A1	20031113	US 2002-168968	20020625
PRAI	JP 1999-374040	A	19991228		
	JP 2000-239624	A	20000808		
	JP 2000-334442	A	20001101		
	WO 2000-JP9411	W	20001228		
OS	MARPAT 135:76866				
GI					



I



II

AB The title compds. I [G is a group of general formula BCOZ or the like; A is a 3- to 13-membered, mono-, di- or tricyclic ring which is composed of 3 to 13 atoms arbitrarily selected from among carbon, oxygen, sulfur and nitrogen, contains at least one heteroatom selected from among oxygen, sulfur and nitrogen, and may optionally have substituent(s), with the proviso that when A is a quinolone ring, the nitrogen atom of the ring is present at the α -position to the imino linkage; Z is OR₁ or the like; B is CH₂ or the like; n = 0 - 4; X is halogeno or the like; and R₁ is hydrogen, C1-6 alkyl, C1-6haloalkyl, or the like] are prepared. The title compound II at 500 ppm gave $\geq 70\%$ control of *Pyricularia oryzae*, *Erysiphe graminis*, *Puccinia recondita*, *Leptosphaera nodorum*, and *Pseudoperonospora cubensis*. II at 500 ppm gave $\geq 70\%$ control of

leafhoppers.

IT 347871-82-3P 347871-85-6P 347871-89-0P
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 347875-96-1P 347876-07-7P 347876-08-8P
 347876-09-9P 347876-10-2P 347876-11-3P
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RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use);

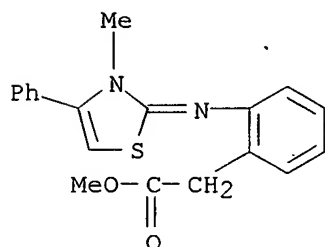
BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of heterocyclic imino compds. as fungicides and
insecticides for agricultural and horticultural use)

IT 347871-82-3P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use);
BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of heterocyclic imino compds. as fungicides and
insecticides for agricultural and horticultural use)

RN 347871-82-3 HCAPLUS

CN Benzeneacetic acid, 2-[(3-methyl-4-phenyl-2(3H)-thiazolylidene)amino]-, methyl ester (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Geigy J R A-G				FR 1601535 A	HCAPLUS
Geigy J R A-G				DE 1816700 C3	HCAPLUS
Geigy J R A-G	1971			GB 1258920 A	HCAPLUS
Maeda, R	1983	31	3424	Chem Pharm Bull	HCAPLUS
Nissan Chemical Industr	1994			JP 06157478 A	HCAPLUS
Toa Wool Spinning & Wea	1995			JP 753527 A	
Werbel, L	1969	12	521	J Med Chem	HCAPLUS

=> d 169 bib abs hitstr retable 1-7

L69 ANSWER 1 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:141200 HCAPLUS

DN 142:254568

TI Methods and compositions for increasing the efficacy of
biologically-active ingredients such as antitumor agents

IN Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan
M.; Thomas, Collin E.

PA Board of Regents, the University of Texas System, USA

SO PCT Int. Appl., 243 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2005014777	A2	20050217	WO 2003-US32667	20031016
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,				

LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ,
 OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
 TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
 KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
 FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI US 2002-418803P P 20021016

AB The invention provides methods and compns. for modulating the sensitivity of cells to cytotoxic compds. and other active agents. In accordance with the invention, compns. are provided comprising combinations of **ectophosphatase** inhibitors and active agents. Active agents include antibiotics, fungicides, **herbicides**, **insecticides**, chemotherapeutic agents, and **plant** growth regulators. By increasing the efficacy of active agents, the invention allows use of compns. with lowered concns. of active ingredients.

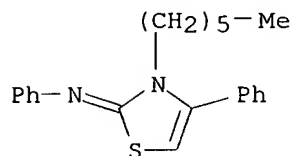
IT 291536-79-3 291536-90-8

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

RN 291536-79-3 HCAPLUS

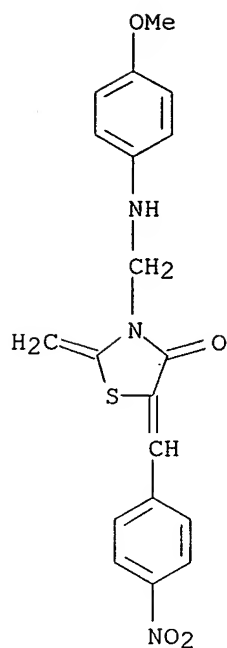
CN Benzenamine, N-(3-hexyl-4-phenyl-2(3H)-thiazolylidene)-, monohydrobromide (9CI) (CA INDEX NAME)



● HBr

RN 291536-90-8 HCAPLUS

CN 4-Thiazolidinone, 3-[[(4-methoxyphenyl)amino]methyl]-2-methylene-5-[(4-nitrophenyl)methylene]- (9CI) (CA INDEX NAME)



L69 ANSWER 2 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2003:23438 HCAPLUS
 DN 138:68713
 TI Modulating resistance of tumor and pathogen cells to foreign compounds by manipulation of ATP gradients via regulation of ABC transporters and ecto-phosphatases
 IN Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan M.
 PA University of Texas, USA
 SO U.S. Pat. Appl. Publ., 41 pp., Cont.-in-part of U.S. Ser. No. 261,825.
 CODEN: USXXCO
 DT Patent
 LA English
 FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003008369	A1	20030109	US 2002-134019	20020425
	US 2002006901	A1	20020117	US 1999-244792	19990205
	WO 2003091403	A2	20031106	WO 2003-US12780	20030425
	WO 2003091403	A3	20041104		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
PRAI	US 1999-244792	A2	19990205		
	US 1999-261825	A2	19990303		

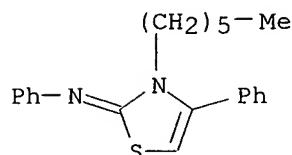
US 2002-134019 A1 20020425

AB The present invention relates to methods for modulating the growth of tumor and pathogen cells and the resistance of cells to foreign compds., i.e. drugs, antibiotics, etc. by altering the ATP gradient across biol. membranes. The altering of the ATP gradient across biol. membranes is achieved through the manipulation of ecto-phosphatase (e.g., human apyrase) activity and ABC transporter mol. (e.g., Arabidopsis AtPGP-1) activity which may also be useful to confer herbicide resistance to plants, confer antibiotic resistance to bacteria, confer drug resistance to yeast cells, or to reduce resistance in cells to facilitate chemotherapeutic treatments, and to reduce resistance in bacteria and yeast. The present invention is also directed to the methods for identifying ecto-phosphatase inhibitors and uses thereof. Nineteen ecto-phosphatase inhibitory mols. are provided which are useful in reversing multi-drug resistance in Arabidopsis and yeast.

IT 291536-79-3 291536-90-8
 RL: AGR (Agricultural use); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (modulating resistance of tumor and pathogen cells to foreign compds. by manipulation of ATP gradients via regulation of ABC transporters and ecto-phosphatases)

RN 291536-79-3 HCAPLUS

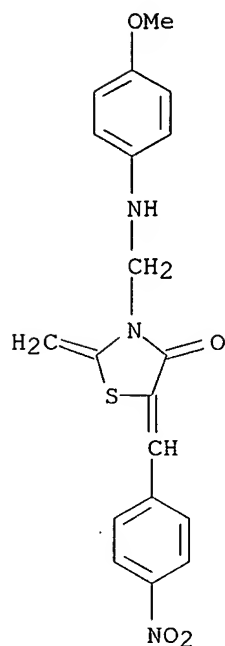
CN Benzenamine, N-(3-hexyl-4-phenyl-2(3H)-thiazolylidene)-, monohydrobromide (9CI) (CA INDEX NAME)



● HBr

RN 291536-90-8 HCAPLUS

CN 4-Thiazolidinone, 3-[[(4-methoxyphenyl)amino]methyl]-2-methylene-5-[(4-nitrophenyl)methylene]- (9CI) (CA INDEX NAME)



IT 9013-05-2, **Phosphatase**

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(modulating resistance of tumor and pathogen cells to foreign compds.
by manipulation of ATP gradients via regulation of ABC transporters and
ecto-phosphatases)

RN 9013-05-2 HCAPLUS

CN Phosphatase (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L69 ANSWER 3 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:833490 HCAPLUS

DN 137:306061

TI **Pesticidal and herbicidal activity** through modulation
of animal and **plant** cell membrane transport

IN **Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan**
M.

PA Board of Regents, The University of Texas System, USA

SO U.S. Pat. Appl. Publ., 41 pp., Cont.-in-part of U. S. Ser. No. 244,791.
CODEN: USXXCO

DT Patent

LA English

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002160915	A1	20021031	US 2001-793336	20010226
	US 6448472	B1	20020910	US 1999-244791	19990205
PRAI	US 1999-244791	A2	19990205		
	US 2000-185299P	P	20000228		

AB The present invention relates to the modulation of **pesticidal**
and **herbicidal** activity by treatment of a membrane transport
system in a cell. This entails modifying the extra-cellular
phosphatases found in the membranes of these cells. By modifying

the ATP gradient across the biol. membrane of a target **plant**, bacteria, insect or mammalian cell via inhibiting one or more extra-cellular **phosphatases**, it is possible to alter the sensitivity to a **pesticide** or **herbicide**. The method also comprises inhibiting an ABC transporter in the target cell. The method can also be used for identifying chems. with **pesticidal** activity.

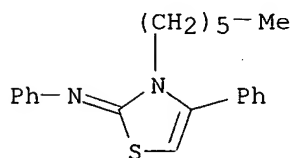
IT 291536-79-3 291536-90-8

RL: AGR (Agricultural use); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(ectophosphatase inhibitor which enhances **pesticidal** and **herbicidal** activity by altering the ATP gradient across biol. membranes)

RN 291536-79-3 HCAPLUS

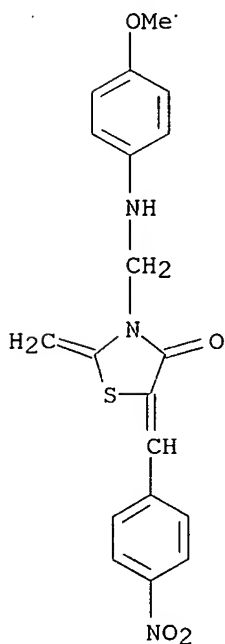
CN Benzenamine, N-(3-hexyl-4-phenyl-2(3H)-thiazolylidene)-, monohydrobromide (9CI) (CA INDEX NAME)



● HBr

RN 291536-90-8 HCAPLUS

CN 4-Thiazolidinone, 3-[[(4-methoxyphenyl)amino]methyl]-2-methylene-5-[(4-nitrophenyl)methylene]- (9CI) (CA INDEX NAME)



IT 9032-64-8, Nucleotide **pyrophosphatase** 37289-25-1
 , ATP **pyrophosphatase**
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (extracellular; **ectophosphatase** inhibitors which enhance
pesticidal and **herbicidal** activity by altering the
 ATP gradient across biol. membranes)
 RN 9032-64-8 HCAPLUS
 CN Pyrophosphatase, nucleotide (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 37289-25-1 HCAPLUS
 CN Pyrophosphatase, adenosine triphosphate (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L69 ANSWER 4 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:185280 HCAPLUS

DN 136:244034

TI Method for increasing the effectiveness of antiinfective agents by
 inhibiting ecto-**phosphatase** and/or ABC transporter activities

IN Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan
 M.

PA Board of Regents, the University of Texas System, USA

SO PCT Int. Appl., 65 pp.

CODEN: PIXXD2

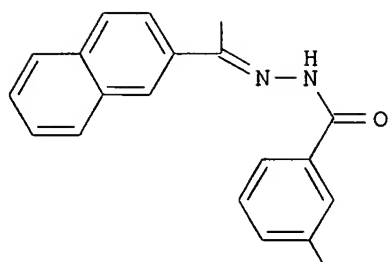
DT Patent

LA English

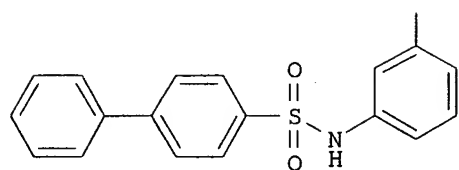
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002020726	A2	20020314	WO 2001-US28242	20010907
	WO 2002020726	A3	20020606		
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				
	CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,				
	GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,				
	LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL,				
	PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG,				
	US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW:				
	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,				
	DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,				
	BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2001090710	A5	20020322	AU 2001-90710	20010907
	US 2002077365	A1	20020620	US 2001-949268	20010907
PRAI	US 2000-231088P	P	20000908		
	WO 2001-US28242	W	20010907		

GI



I



II

AB The present invention relates to methods for decreasing the resistance of microbial strains to antiinfectives such as antibiotics and antifungals by altering the ATP gradient across biol. membranes. The altering of the ATP gradient across biol. membranes is achieved through the inhibition of ecto-**phosphatase** activity and/or ABC transporter mol. activity which may be useful to reduce resistance in bacteria and yeast to aid in the treatment of certain infections and disease and to lower the concentration

of

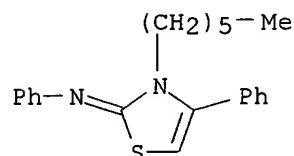
antiinfectives necessary to inhibit the growth of microbial strains. Apyrase inhibitor I increased the growth inhibitory effect of the fungicide chlorothalonil by over 50%. Surflan was an equally effective weed killer against Arabidopsis thaliana at a five-fold less concentration in the presence of II.

IT 291536-79-3 291536-90-8

RL: BSU (Biological study, unclassified); CST (Combinatorial study, unclassified); BIOL (Biological study); CMBI (Combinatorial study) (as apyrase inhibitor; method for increasing effectiveness of antiinfective agents by inhibiting ecto-**phosphatase** and/or ABC transporter activities)

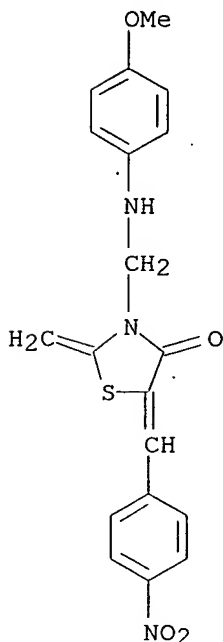
RN 291536-79-3 HCAPLUS

CN Benzenamine, N-(3-hexyl-4-phenyl-2(3H)-thiazolylidene)-, monohydrobromide (9CI) (CA INDEX NAME)



● HBr

RN 291536-90-8 HCAPLUS
 CN 4-Thiazolidinone, 3-[[(4-methoxyphenyl)amino]methyl]-2-methylene-5-[(4-nitrophenyl)methylene]- (9CI) (CA INDEX NAME)



IT 9000-83-3, ATPase
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (inhibition of, of **ectophosphatase**; method for increasing
 effectiveness of antiinfective agents by inhibiting ecto-
phosphatase and/or ABC transporter activities)
 RN 9000-83-3 HCAPLUS
 CN Phosphatase, adenosine tri- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L69 ANSWER 5 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2001:676991 HCAPLUS
 DN 135:222868
 TI **Pesticide** adjuvant activity through modulation of animal and
plant cell membrane transport
 IN Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan
 M.
 PA Board of Regents of the University of Texas System, USA
 SO PCT Int. Appl., 76 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN. CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001066792	A1	20010913	WO 2001-US7423	20010307
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,			

HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
 LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
 SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU,
 ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
 BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 2002103082 A1 20020801 US 2001-800327 20010306
 CA 2373424 AA 20010913 CA 2001-2373424 20010307
 PRAI US 2000-187819P P 20000308
 US 2001-800327 A 20010306
 WO 2001-US7423 W 20010307

AB The invention relates to the modulation of **pesticidal** and **herbicidal** activity by treatment of a membrane transport system in a cell. This entails modifying the extracellular **phosphatases** found in the membranes of these cells. By modifying the ATP gradient across the biol. membrane of a target **plant**, bacteria, insect or mammalian cell via inhibiting one or more extracellular **phosphatases**, it is possible to alter the sensitivity to a **pesticide** or **herbicide**. In preferred embodiments, the chemical moieties of the invention act as adjuvants to enhance **pesticidal** activity.

IT 9013-05-2, Phosphatase

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(ecto-; **pesticide** adjuvants acting by inhibition of extracellular **phosphatases** in membranes)

RN 9013-05-2 HCAPLUS

CN Phosphatase (9CI) (CA INDEX NAME)

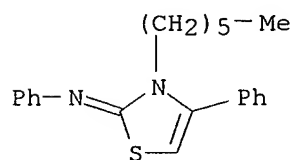
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 291536-79-3 291536-90-8

RL: AGR (**Agricultural use**); BIOL (Biological study); USES (Uses) (**pesticide** adjuvant acting by inhibition of extracellular **phosphatases** in membranes)

RN 291536-79-3 HCAPLUS

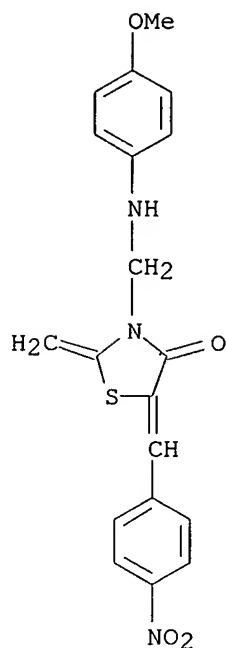
CN Benzenamine, N-(3-hexyl-4-phenyl-2(3H)-thiazolylidene)-, monohydrobromide (9CI) (CA INDEX NAME)



● HBr

RN 291536-90-8 HCAPLUS

CN 4-Thiazolidinone, 3-[[(4-methoxyphenyl)amino]methyl]-2-methylene-5-[(4-nitrophenyl)methylene]- (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Boyum	1997	230	22	Biochem Biophys Res	HCAPLUS
Decottignies	1998	273	12612	J Biol Chem	HCAPLUS
Grant	1994	54	357	Cancer Research	HCAPLUS
Thomas	2000	12	519	The Plant Cell	HCAPLUS
University Of Texas	2000			WO 0052144 A1	HCAPLUS

L69 ANSWER 6 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:661570 HCAPLUS

DN 135:206922

TI **Pesticidal and herbicidal activity through modulation of animal and plant cell membrane transport**

IN Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan M.

PA Board of Regents, the University of Texas System, USA

SO PCT Int. Appl., 74 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 3

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001064859	A1	20010907	WO 2001-US6503	20010227
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,				

DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRAI US 2000-185299P P 20000228

AB The invention relates to the modulation of **pesticidal** and **herbicidal** activity by treatment of a membrane transport system in a cell. This entails modifying the extra-cellular **phosphatases** found in the membranes of these cells. By modifying the ATP gradient across the biol. membrane of a target **plant**, bacteria, insect or mammalian cell via inhibiting one or more extracellular **phosphatases**, it is possible to alter the sensitivity to a **pesticide** or **herbicide**. The method also comprises inhibiting an ABC transporter in the target cell. The method can also be used for identifying chems. with **pesticidal** activity.

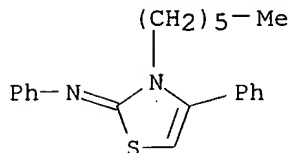
IT 291536-79-3 291536-90-8

RL: AGR (Agricultural use); BUU (Biological use, unclassified);
BIOL (Biological study); USES (Uses)

(ectophosphatase inhibitor which enhances **pesticidal**
and **herbicidal** activity by altering the ATP gradient across
biol. membranes)

RN 291536-79-3 HCAPLUS

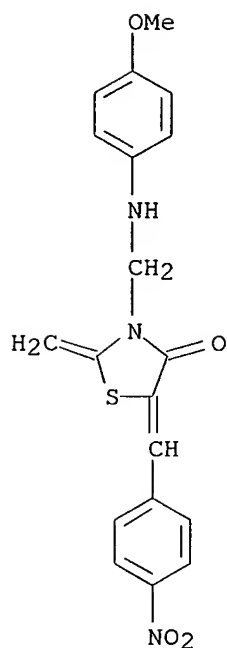
CN Benzenamine, N-(3-hexyl-4-phenyl-2(3H)-thiazolylidene)-, monohydrobromide
(9CI) (CA INDEX NAME)



● HBr

RN 291536-90-8 HCAPLUS

CN 4-Thiazolidinone, 3-[[(4-methoxyphenyl) amino]methyl]-2-methylene-5-[(4-nitrophenyl)methylene]- (9CI) (CA INDEX NAME)



IT 9032-64-8, Nucleotide pyrophosphatase 37289-25-1

, ATP pyrophosphatase

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(extracellular; ectophosphatase inhibitors which enhance
pesticidal and herbicidal activity by altering the
ATP gradient across biol. membranes)

RN 9032-64-8 HCAPLUS

CN Pyrophosphatase, nucleotide (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 37289-25-1 HCAPLUS

CN Pyrophosphatase, adenosine triphosphate (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RETABE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Lu, Y	1998	10	267	The Plant Cell	HCAPLUS
Thomas, C	2000	12	519	The Plant Cell	HCAPLUS

L69 ANSWER 7 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2000:628251 HCAPLUS

DN 133:219782

TI Genetic and epigenetic manipulation of ABC transporters and ecto-
phosphatases for modulating drug resistance and methods for
detection of ecto-phosphatase inhibitors

IN Thomas, Collin E.; Windsor, J. Brian; Roux, Stan
J.; Lloyd, Alan M.; Hurley, Laurence

PA University of Texas, USA

SO PCT Int. Appl., 85 pp.

CODEN: PIXXD2

DT Patent
 LA English
 FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000052144	A1	20000908	WO 2000-US5315	20000228
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1185623	A1	20020313	EP 2000-913685	20000228
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 2002173031	A1	20021121	US 2002-47251	20020114
PRAI	US 1999-261825	A	19990303		
	WO 2000-US5315	W	20000228		

AB The present invention relates to methods for modulating the resistance of cells to foreign compds., i.e. drugs, antibiotics, etc. by altering the ATP gradient across biol. membranes. Altering the ATP gradient across biol. membranes is achieved through the manipulation of ecto-**phosphatase** activity and ABC transporter mol. activity. The above method may be useful to confer **herbicide** resistance to **plants**, antibiotic resistance to bacteria, and drug resistance to yeast cells, or to reduce resistance in cells, bacteria, and yeast in order to facilitate chemotherapeutic treatments. The present invention is also directed to the methods for identifying ecto-**phosphatase** inhibitors and uses thereof. Thus, Arabidopsis thaliana has been shown to possess an ecto-apyrase and this ecto-apyrase and PGP-1 (an MDR-like protein) to have a role in MDR. Addnl., the extracellular ATP pool was shown to be critical for MDR in yeast. Screening of a combinatorial library of small mols. has resulted in identification of apyrase inhibitors.

IT 9013-05-2, Phosphatase 291536-79-3
 291536-90-8

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)

(genetic and epigenetic manipulation of ABC transporters and ecto-**phosphatases** for modulating drug resistance and methods for detection of ecto-**phosphatase** inhibitors)

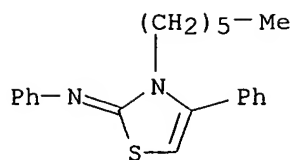
RN 9013-05-2 HCAPLUS

CN Phosphatase (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 291536-79-3 HCAPLUS

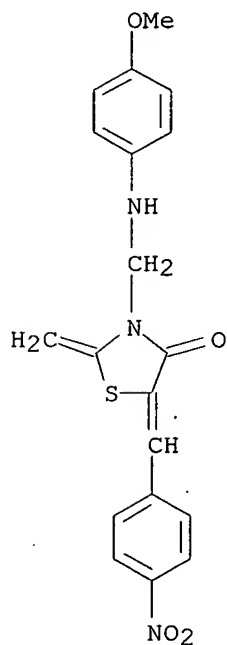
CN Benzenamine, N-(3-hexyl-4-phenyl-2(3H)-thiazolyldene)-, monohydrobromide (9CI) (CA INDEX NAME)



● HBr

RN 291536-90-8 HCAPLUS

CN 4-Thiazolidinone, 3-[[(4-methoxyphenyl)amino]methyl]-2-methylene-5-[(4-nitrophenyl)methylene]- (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Decottignies	1998	273	12612	J Biol Chem	HCAPLUS
Dudler	1992	267	5882	J Biol Chem	HCAPLUS
Grant	1994	54	357	Cancer Research	HCAPLUS
Kiba	1995	36	809	Plant Cell Physiol	HCAPLUS
Lu	1998	10	267	The Plant Cell	HCAPLUS
Sidler	1998	10	1632	The Plant Cell	
Thomas	1999	119	543	Plant Physiol	HCAPLUS
Wang	1996	271	9898	J Biol Chem	HCAPLUS

=> d 170 bib abs hitrn fhitr retable 1-16

L70 ANSWER 1 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2002:539670 HCAPLUS
 DN 137:93746
 TI 2-Arylimino-2,3-dihydrothiazoles, processes for their preparation, and their use as somatostatin receptor ligands
 IN Moinet, Christophe; Sackur, Carole; Thurieau, Christophe
 PA Societe De Conseils De Recherches Et D'applications Scientifiques (S.C.R.A.S.), Fr.
 SO PCT Int. Appl., 465 pp.
 CODEN: PIXXD2
 DT Patent
 LA French
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002055510	A1	20020718	WO 2002-FR93	20020111
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	FR 2819508	A1	20020719	FR 2001-396	20010112
	FR 2819508	B1	20050121		
	CA 2434203	AA	20020718	CA 2002-2434203	20020111
	EP 1353912	A1	20031022	EP 2002-700318	20020111
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	BR 2002006407	A	20040106	BR 2002-6407	20020111
	JP 2004530643	T2	20041007	JP 2002-556180	20020111
	ZA 2003005100	A	20040827	ZA 2003-5100	20030630
	NO 2003003120	A	20030911	NO 2003-3120	20030708
PRAI	FR 2001-396	A	20010112		
	WO 2002-FR93	W	20020111		
OS	MARPAT 137:93746				
GI					

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The invention concerns novel 2-arylimino-2,3-dihydrothiazole derivs. I and their racemates, enantiomers, combinations, and salts [wherein R1 = (un)substituted, particularly amino-substituted alk(en/yn)yl, (hetero)aryl, aralkyl, cycloalkyl, etc.; R2 = (un)substituted carbocyclic or heterocyclic aryl; R3 = alkyl, adamantyl, (un)substituted (hetero)aryl or (hetero)aralkyl, (un)substituted carbamoyl; R4 = H, alkyl, (un)substituted (hetero)aralkyl, etc.]. Also disclosed are methods of their preparation and their use as medicines, in particular for treating a wide variety of pathol. conditions or diseases involving somatostatin receptors. In particular, these pathol. conditions include acromegaly, pituitary adenoma, endocrine gastroenteropancreatic tumors (including carcinoid syndrome), and gastrointestinal bleeding. Examples include a few detailed syntheses, a listing of over 2800 characterized invention

compds., and various precursor prepn's. For instance, 4-H₂NC₆H₄CH₂CH₂NH₂ was bound to Wang resin p-nitrophenylcarbonate (at the aliphatic amino group), and the resin-bound amine reacted sequentially with PhCH₂CH₂NCS, bromopyruvic acid, and 4-ClC₆H₄CH₂NH₂ to give, after acidic cleavage, (Z)-isomeric title compound II. Twenty selected compds. I, including III.2HCl, inhibited binding of [125I-Tyr¹¹]SRIF-14 to human somatostatin receptors in vitro with K_i < 200 nM.

IT 322740-74-9P 322740-76-1P 322740-77-2P
322740-78-3P 322740-79-4P 322740-80-7P
322741-53-7P 322741-54-8P 322741-55-9P
322741-56-0P 322741-57-1P 322741-58-2P
322741-62-8P 322741-63-9P 322741-64-0P
322741-65-1P 322741-66-2P 322741-67-3P
322742-25-6P 322742-26-7P 322742-27-8P
322742-28-9P 322742-29-0P 322742-30-3P
322742-31-4P 322743-27-1P 322743-28-2P
322743-29-3P 322743-30-6P 322743-31-7P

RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug candidate; preparation of (arylimino)dihydrothiazoles as somatostatin receptor ligands)

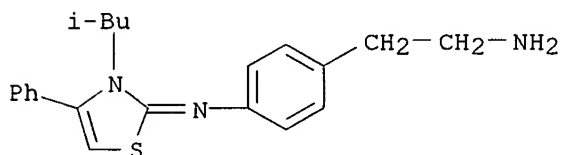
IT 322740-74-9P

RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug candidate; preparation of (arylimino)dihydrothiazoles as somatostatin receptor ligands)

RN 322740-74-9 HCAPLUS

CN Benzeneethanamine, 4-[[3-(2-methylpropyl)-4-phenyl-2(3H)-thiazolylidene]amino]- (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Ciba S A	1964			FR 1347371 A	
Hoechst Ag	1981			EP 0023964 A	HCAPLUS
Omar, A	1984	73	1166	JOURNAL OF PHARMACEU	HCAPLUS
Thurieu, C	2001			WO 0107424 A	HCAPLUS
Wermuth, C	1997			WO 9700868 A	HCAPLUS

L70 ANSWER 2 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:165042 HCAPLUS

DN 136:216746

TI Preparation and use of, e.g., 2-arylimino-1,3-thiazolidines as progesterone receptor binding ligands

IN Dixon, Brian R.; Bagi, Cedo M.; Brennan, Catherine R.; Brittelli, David R.; Bullock, William H.; Chen, Jinshan; Collibee, William L.; Dally, Robert; Johnson, Jeffrey S.; Kluender, Harold C. E.; Lathrop, William F.;

Liu, Peiying; Mase, Carol Ann; Redman, Aniko M.; Scott, William J.;
Urbahns, Klaus; Wolanin, Donald J.

PA Bayer Corp., USA

SO U.S., 148 pp.

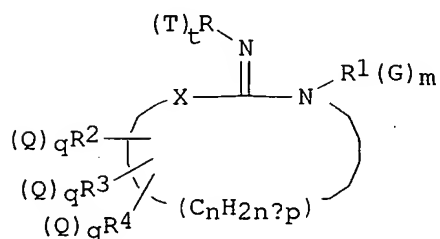
CODEN: USXXAM

DT Patent

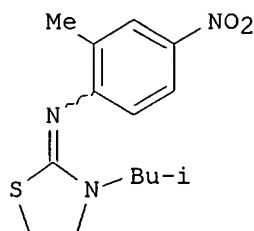
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6353006	B1	20020305	US 1999-453613	19991203
	US 2003207865	A1	20031106	US 2001-4306	20011023
PRAI	US 1999-287573P	P	19990114		
	US 1999-453613	A3	19991203		
OS	MARPAT 136:216746				
GI					



I



II

AB Title compds. I [R = substituted Ph, wherein the substituent is selected from T or substituted pyridyl; R1 = (cyclo)alkyl, (cyclo)alkenyl, alkynyl; R2-4 = H, (cyclo)alkyl, (cyclo)alkenyl, oxo, representing two of the groups R2-4; X = S(O)0-2; n = 2; p = sum of non-H substituents R2-4; T = alk(en/yn)yl, alkoxy, NO2, CN, halo; t = 1-5, provided that when T = alk(en/yn)yl, alkoxy, T is optionally substituted; G = halo, alkoxy, (cyclo)alk(en)yl, aryl, CN; g = 0-4, with the exception of halogen, which may be employed up to the perhalo level provided that when substituent G is alkyl, alkenyl, etc. then G is optionally substituted; Q = of (halo)alkyl, cycloalkyl, alkoxy, alkenyl, cycloalkenyl, etc.; q = 0-4; with some provisions] were prepared E.g. 2-chloroethylammonium chloride was reacted with (2-methyl-4-nitrophenyl)isothiocyanate (CH2Cl2, Et3N) to give the thiazolidine which was alkylated with i-Bu bromide (DMF, Cs2CO3, 90°C) to give II. Most compds. of the invention at 200 nM caused at least 30% inhibition of progesterone while, e.g., II caused >80% inhibition at the same concentration I are useful in the treatment of luteal deficiency, osteoporosis, hirsutism, etc.

IT 285122-01-2P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug; preparation and use of, e.g., 2-arylimino-1,3-thiazolidines as progesterone receptor binding ligands)

IT 285122-01-2P

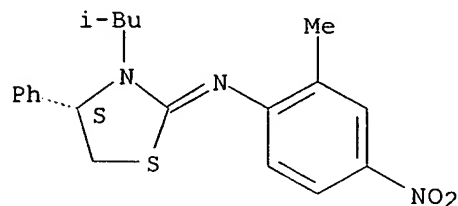
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug; preparation and use of, e.g., 2-arylimino-1,3-thiazolidines as progesterone receptor binding ligands)

RN 285122-01-2 HCAPLUS

CN Benzenamine, 2-methyl-N-[(4S)-3-(2-methylpropyl)-4-phenyl-2-thiazolidinylidene]-4-nitro-, monohydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



● HCl

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Ambartsumova	1997	33	475	Chemistry of Heteroc	HCAPLUS
Anon	1943			JP 4315609	
Anon	1967			FR 1510014	HCAPLUS
Anon	1967			FR 1510015	HCAPLUS
Anon	1968			FR 1516854	HCAPLUS
Anon	1969			GB 1140776	HCAPLUS
Anon	1969			JP 4421095	
Anon	1971			DE 1963192	HCAPLUS
Anon	1972			FR 2117337	HCAPLUS
Anon	1974			GB 1342232	HCAPLUS
Anon	1974			GB 1377265	HCAPLUS
Anon	1976			DE 2511731	HCAPLUS
Anon	1977			GB 1467385	HCAPLUS
Anon	1978			GB 1527807	HCAPLUS
Anon	1978			HU 171587	
Anon	1978			DE 2658138	HCAPLUS
Anon	1980			GB 1579782	HCAPLUS
Anon	1980			GB 1580554	HCAPLUS
Anon	1986			SU 1209688	HCAPLUS
Anon	1986			DE 3505432	HCAPLUS
Anon	1987			EP 0240680	HCAPLUS
Anon	1988			JP 63041471 A2	HCAPLUS
Anon	1989			EP 0318253	HCAPLUS
Anon	1989			WO 8904595	HCAPLUS
Anon	1994			EP 0600489	HCAPLUS
Anon	1995			EP 0683160	HCAPLUS
Anon	1995			JP 07304759 A2	HCAPLUS
Anon	1995			JP 7304759	
Anon	1995			WO 9533717	HCAPLUS
Anon	1996			WO 9614842	HCAPLUS
Anon	1998	33	151	Advances in Medicina	
Argay	1980	B36	363	Acta Cryst	HCAPLUS
Arya	1977	15B	133	Indian J Chem	HCAPLUS
Bacchetti	1957			US 2784196 A	HCAPLUS
Balko	1981			US 4289778 A	HCAPLUS
Baumann	1988			US 4788209 A	HCAPLUS

Behner	1974			US 3804848 A	HCAPLUS
Behner	1975			US 3898340 A	HCAPLUS
Burke, J	1999	106	85	Postgraduate medicin	MEDLINE
Cherbuliez	1967	50	331	Helvetica Chimica Ac	
Chiou	1994	10	577	J Ocular Pharm	HCAPLUS
Culik	1972			US 3636219 A	HCAPLUS
Duerr	1967			US 3345257 A	
Durr	1978			US 4079144 A	
Durr	1979			US 4140784 A	HCAPLUS
Durr	1979			US 4163791 A	HCAPLUS
Enders	1979			US 4148799 A	HCAPLUS
Felix	1989			US 4806653 A	HCAPLUS
Felix	1990			US 4900351 A	HCAPLUS
Felix	1990			US 4913722 A	HCAPLUS
Fisher	1996			US 5534520 A	HCAPLUS
Fresenius, P	1989		29	Organic Chemical Nom	
Garber	1967			US 3297708 A	HCAPLUS
Hahn, H	1997	40	139	Agriculture Chem Bio	
Hanefeld	1981	314	799	Arch Pharm (Weinheim	HCAPLUS
Hanefeld	1985	318	60	Arch Pharm (Weinheim	HCAPLUS
Hanefeld	1988	321	199	Arch Pharm (Weinheim	HCAPLUS
Heeres	1988			US 4735942 A	HCAPLUS
Ignatova	1974	3	354	Khim Geterotsikl Soe	
Ignatova	1976	12	1621	Khim Geterotsikl Soe	
Ignatova	1975		307	The Journal of Chemi	
Ignatova	1976		1333	The Journal of Chemi	
Ippen	1986			US 4581453 A	HCAPLUS
John, D	1964		769	Basic Principles of	
Kalman	1987	161	125	J Mol Struct	HCAPLUS
Lang	1982			US 4346088 A	HCAPLUS
Lang	1983			US 4421757 A	HCAPLUS
Lempert	1993			US 5240918 A	HCAPLUS
Luckenbaugh	1959			US 2902356 A	HCAPLUS
March, J	1968		877	Advanced Organic Che	
Masumoto	1995			US 5463069 A	HCAPLUS
Mehta, R	1998	316	838	BMJ	MEDLINE
Metzger	1969			US 3479351 A	HCAPLUS
Metzger	1972			US 3640952 A	HCAPLUS
Metzger	1972			US 3689499 A	
Metzger	1973			US 3770693 A	
Metzger	1968	9	1572	Polym Prepr	HCAPLUS
Mizrakh	1986		62	The Journal of Chemi	
Mizrakh	1989		1229	The Journal of Chemi	
Mizrakh	1989		1999	The Journal of Chemi	
Mizrakh	1986	56	73	Zh Obshch Khim	HCAPLUS
Mizrakh	1988	58	2246	Zh Obshch Khim	HCAPLUS
Mizrakh	1992	62	1498	Zh Obshch Khim	HCAPLUS
Mohsen	1984	73	1166	J Pharma Sci	
Morrison, R	1983		627	Organic Chemistry	
Nathanson	1987			US 4678775 A	HCAPLUS
Nathanson	1990			US 4892871 A	HCAPLUS
Nomura, R	1989	122	2407	Chem Ber	HCAPLUS
Noseworthy, J	1999	399	A40	Nature supplement	HCAPLUS
Okawara	1983	31	507	Chem Pharm Bull	HCAPLUS
Olzenko-Piontkowa	1971	3	27	Org Prep Proc Int	
Peresleni	1977	3	346	Khim Geterotikl Soed	
Peresleni	1977		278	The Journal of Chemi	
Raddatz	1988			US 4771062 A	HCAPLUS
Raman	1978	21	177	Res Commun Chem Phat	HCAPLUS

Reinhoudt, D	1973	92	20	Recueil	HCAPLUS
Rohde	1994	26	116	Ophthalmic Res	HCAPLUS
Rosen, R	1993	22	521	Arch Sex Behav	MEDLINE
Sagner	1972			US 3651053 A	
Sagner	1973			US 3737536 A	
Schmid	1989			US 4876265 A	HCAPLUS
Schwade	1995	11	125	J Ocular Pharmacolog	HCAPLUS
Singh, B	1993	5	278	Asian J Chem	HCAPLUS
Singh, B	1978	5	189	Phosphorus and Sulfu	HCAPLUS
Solankee	1994	3	291	Indian J Heterocycli	HCAPLUS
Solankee	1993	65	191	J Inst Chemists (Ind	HCAPLUS
Solankee	1994	66	49	J Inst Chemists (Ind	HCAPLUS
Streitweiser, A	1981		649	Introduction to Orga	
Takano	1996			US 5521145 A	HCAPLUS
Toldy	1973	43	195	Acta Pharmaceutica H	HCAPLUS
Tyukhteneva	1985	12	1629	Khim Geterotsikl Soe	
Tyukhteneva	1986		1339	The Journal of Chemi	
van Wauwe	1990			US 4931444 A	HCAPLUS
Vollhardt, K	1987		857	Organic Chemistry	
Wellinga	1989			US 4854961 A	HCAPLUS
Wollweber	1972			US 3686199 A	HCAPLUS
Wollweber	1974			US 3787575 A	HCAPLUS
Wollweber	1975			US 3860590 A	HCAPLUS
Woolard	1989			US 4877880 A	HCAPLUS
Xiao	1995	11	369	J Ocular Pharmacolog	HCAPLUS
Zawisza	1985	59	149158	Polish J Chem	

L70 ANSWER 3 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:331534 HCAPLUS

DN 135:122450

TI Synthesis and antimicrobial activity of some 4-thiazoline-containing 1,2,4-triazoles

AU Ciugureanu, Constantin; Ciugureanu, Maria; Murarescu, Elena Doina

CS Univ. "Al. I. Cuza", Iasi, Rom.

SO Revista de Chimie (Bucharest, Romania) (2001), 52(1-2), 5-10

CODEN: RCBUAU; ISSN: 0034-7752

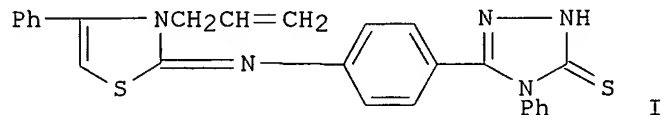
PB SYSCOM 18 SRL

DT Journal

LA Romanian

OS CASREACT 135:122450

GI



AB Title compds. such as I were prepared by 2 methods. In vitro antibacterial tests were run.

IT 351339-91-8P 351339-94-1P 351339-97-4P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent) (preparation and antimicrobial activity of 4-thiazoline-containing 1,2,4-triazoles)

IT 351340-00-6P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(preparation and antimicrobial activity of 4-thiazoline-containing 1,2,4-triazoles)

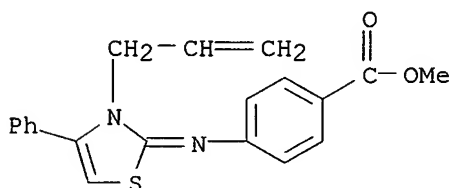
IT 351339-91-8P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)

(preparation and antimicrobial activity of 4-thiazoline-containing 1,2,4-triazoles)

RN 351339-91-8 HCAPLUS

CN Benzoic acid, 4-[[4-phenyl-3-(2-propenyl)-2(3H)-thiazolylidene]amino]-, methyl ester (9CI) (CA INDEX NAME)



L70 ANSWER 4 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:78374 HCAPLUS

DN 134:147596

TI 2-Arylimino-2,3-dihydrothiazoles, processes for their preparation, and their use as somatostatin receptor ligands

IN Moinet, Christophe; Sackur, Carole; Thurieau, Christophe

PA Societe de Conseils de Recherches et d'Applications Scientifiques (S.C.R.A.S, Fr.

SO PCT Int. Appl., 428 pp.

CODEN: PIXXD2

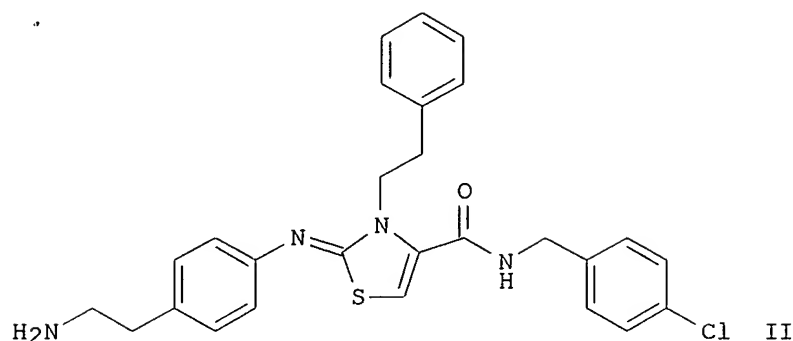
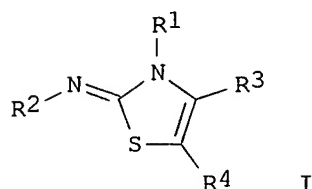
DT Patent

LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001007424	A1	20010201	WO 2000-FR2095	20000721
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	FR 2796643	A1	20010126	FR 1999-9496	19990722
	CA 2382940	AA	20010201	CA 2000-2382940	20000721
	BR 2000012647	A	20020409	BR 2000-12647	20000721
	EP 1202980	A1	20020508	EP 2000-958575	20000721
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
	JP 2003505453	T2	20030212	JP 2001-512509	20000721
	NZ 516599	A	20040130	NZ 2000-516599	20000721

US 6727269	B1	20040427	US 2002-31429	20020115
NO 2002000314	A	20020306	NO 2002-314	20020121
PRAI FR 1999-9496	A	19990722		
WO 2000-FR2095	W	20000721		
OS MARPAT 134:147596				
GI				



AB The invention concerns novel 2-arylimino-2,3-dihydrothiazole derivs. I and their racemates, enantiomers, combinations, and salts [wherein R1 = (un)substituted, particularly amino-substituted alk(en/yn)yl, (hetero)aryl, aralkyl, cycloalkyl, etc.; R2 = (un)substituted carbocyclic or heterocyclic aryl; R3 = alkyl, adamantyl, (un)substituted (hetero)aryl or (hetero)aralkyl, (un)substituted carbamoyl; R4 = H, alkyl, (un)substituted (hetero)aralkyl, etc.]. Also disclosed are methods of their preparation and their use as medicines, in particular for treating a wide variety of pathol. conditions or diseases involving somatostatin receptors. In particular, these pathol. conditions include acromegaly, pituitary adenoma, endocrine gastroenteropancreatic tumors (including the carcinoid syndrome), and gastrointestinal bleeding. Examples include 6 detailed syntheses, a listing of over 2800 characterized invention compds., and various precursor preps. For instance, 4-H2NC6H4CH2CH2NH2 was bound to Wang resin p-nitrophenylcarbonate (at the aliphatic amino group), and the resin-bound amine reacted sequentially with PhCH2CH2NCS, bromopyruvic acid, and 4-ClC6H4CH2NH2 to give, after acidic cleavage, (Z)-isomeric title compound II. Ten selected compds. I inhibited binding of [125I-Tyr11]SRIF-14 to human somatostatin receptors in vitro with Ki < 200 nM.

IT 322740-74-9P 322740-76-1P 322740-77-2P
 322740-78-3P 322740-79-4P 322740-80-7P
 322741-53-7P 322741-54-8P 322741-55-9P
 322741-56-0P 322741-57-1P 322741-58-2P
 322741-62-8P 322741-63-9P 322741-64-0P
 322741-65-1P 322741-66-2P 322741-67-3P

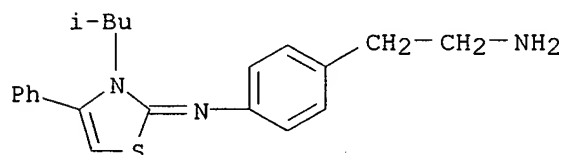
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

322740-74-9P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

322740-74-9 HCAPLUS

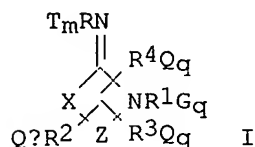
Benzeneethanamine, 4-[[3-(2-methylpropyl)-4-phenyl-2(3H)-thiazolylidene]amino]- (9CI) (CA INDEX NAME)



Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Beilstein Institut Fuer	1978	26	3017	CHEM PHARM BULL	
Beilstein Institut Fuer				DATABASE CROSSFIRE	
Beilstein Institut Fuer				DATABASE CROSSFIRE	
Beilstein Institut Fuer				DATABASE CROSSFIRE	
Beilstein Institut Fuer				DATABASE CROSSFIRE	
Beilstein Institut Fuer				DATABASE CROSSFIRE	
Beilstein Institut Fuer				DATABASE CROSSFIRE	
Beilstein Institut Fuer				DATABASE CROSSFIRE	
Beilstein Institut Fuer				DATABASE CROSSFIRE	
Beilstein Institut Fuer	1978	16	605	INDIAN J CHEM SECT B	
Beilstein Institut Fuer	1934		1175	J CHEM SOC	
Beilstein Institut Fuer	1984	21	1377	J HETEROCYCL CHEM	
Beilstein Institut Fuer	1931	8	147	J INDIAN CHEM SOC	
Beilstein Institut Fuer	1913	87	44	J PRAKT CHEM	
Beilstein Institut Fuer	1984	58	447	POL J CHEM	
Beilstein Institut Fuer	1994	24	495	SYNTH COMMUN	
Beilstein Institut Fuer	1936	24	45	UNIV KANS SCI BULL	
Duerr, D	1967			US 3345257 A	
Hassan, H	1998	46	863	CHEMICAL & PHARMACEU	HCAPLUS
Hoechst Aktiengesellsch	1981			EP 0023964 A	HCAPLUS
Hoechst Aktiengesellsch	1982			EP 0055458 A	HCAPLUS
Kalcheva, V	1993		1319	LIEBIGS ANNALEN DER	HCAPLUS
Lang, H	1982			US 4346088 A	HCAPLUS
Liu, S	1998	41	4693	JOURNAL OF MEDICINAL	HCAPLUS
Omar, A	1984	73	1166	JOURNAL OF PHARMACEU	HCAPLUS
Sumitomo Chemical Compa	1995			EP 0683160 A	HCAPLUS

L70 ANSWER 5 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2000:493535 HCAPLUS
 DN 133:120323
 TI Preparation of 2-aryliminothiazolidines and related compds. progesterone
 receptor binding agents
 IN Dixon, Brian R.; Bagi, Cedo M.; Brennan, Catherine R.; Brittelli, David
 R.; Bullock, William H.; Chen, Jinshan; Collibee, William L.; Dally,
 Robert; Johnson, Jeffrey S.; Kluender, Harold C. E.; Lathrop, William F.;
 Liu, Peiying; Mase, Carol Ann; Redman, Aniko M.; Scott, William J.;
 Urbahns, Klaus; Wolanin, John J.
 PA Bayer Corporation, USA
 SO PCT Int. Appl., 274 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000042031	A2	20000720	WO 1999-US29601	19991214
	WO 2000042031	A3	20001109		
	W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	CA 2359562	AA	20000720	CA 1999-2359562	19991214
	EP 1144396	A2	20011017	EP 1999-968883	19991214
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
	BR 9916999	A	20011030	BR 1999-16999	19991214
	TR 200102041	T2	20011221	TR 2001-200102041	19991214
	JP 2002534517	T2	20021015	JP 2000-593599	19991214
	ZA 2001005253	A	20020905	ZA 2001-5253	20010626
	NO 2001003318	A	20010830	NO 2001-3318	20010704
	BG 105761	A	20020329	BG 2001-105761	20010801
PRAI	US 1999-231906	A	19990114		
	WO 1999-US29601	W	19991214		
OS	MARPAT 133:120323				
GI					



AB Title compds. (I; T = alkyl, alkoxy, aryl, CO₂H, alkenyl, alkynyl, CHO, OH, NO₂, cyano, halo, OCF₃, etc.; R = aryl, heteroaryl; R₁ = alkyl, cycloalkyl, heterocycloalkyl, alkenyl, cycloalkenyl, alkynyl; R₂-R₄ = H, alkyl, cycloalkyl, alkenyl, cycloalkenyl, aryl, heteroaryl, halo, O, etc.; X = O, S, SO, SO₂; G = halo, OH, O, alkyl, alkenyl, cycloalkyl,

heterocycloalkyl, cycloalkenyl, aryl, heteroaryl, etc.; m = 1-5; p, q = 0-4; Z = C_nH_{2n-r}; n = 2-5; r = sum of non-H substituents R₂, R₃, R₄; with provisos), were prepared. Thus, title compound (II), prepared from 2-chloroethylammonium chloride, 2-methyl-4-nitrophenyl isothiocyanate, and iso-Bu bromide, at 200 nM gave 80-100% inhibition of 3H-progesterone to the progesterone receptor.

IT 285122-01-2P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of 2-aryliminothiazolidines and related compds. progesterone receptor binding agents)

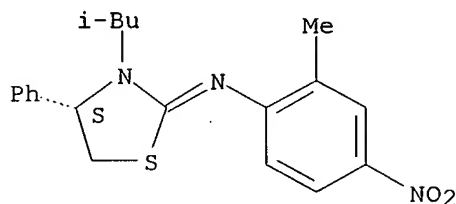
IT 285122-01-2P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of 2-aryliminothiazolidines and related compds. progesterone receptor binding agents)

RN 285122-01-2 HCAPLUS

CN Benzenamine, 2-methyl-N-[(4S)-3-(2-methylpropyl)-4-phenyl-2-thiazolidinylidene]-4-nitro-, monohydrochloride (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.



● HCl

L70 ANSWER 6 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2000:243751 HCAPLUS

DN 133:30351

TI Iminium salts in solid-state syntheses giving 100% yield

AU Kaupp, Gerd; Schmeyer, Jens; Boy, Juergen

CS Universitaet, Organic Chemistry I, Oldenburg, Germany

SO Journal fuer Praktische Chemie (Weinheim, Germany) (2000), 342(3), 269-280
CODEN: JPCHF4; ISSN: 1436-9966

PB Wiley-VCH Verlag GmbH

DT Journal

LA English

OS CASREACT 133:30351

AB Numerous reaction types in the field of iminium salts are performed in the gas-solid and solid-solid techniques in order to reach 100% yield. The stoichiometric runs are waste-free and do not require costly workup. Frequently, iminium salts were avoided, as acid catalysis was dispensable. Thioureas and α -halogenated ketones give a variety of 2-aminothiazoles via thiuronium salts in quant. yield. A new intramol. solid-state thermal condensation is reported. Enamino ketones are synthesized quant. from anilines and 1,3-diketones without catalysis and

those can be used for quant. solid-state 4-cascade reactions. Solid paraformaldehyde is used to produce methylene imines and internally trapped methylene iminium salts. Benzoylhydrazones are produced again without catalysis in the solid state. Vacuum and ball-mill techniques are particularly useful in the production of highly sensitive iminium salts. Hexahydro-1,3,5-triazines cyclorevert upon exposure to HCl gas to give solid arylmethylene iminium chlorides as new versatile reagents. These are used in arylaminomethylations of β -naphthol and of themselves to give Troeger's bases in 3-cascades. More direct are 4-cascade Troeger's base syntheses by dissolving hexahydro-1,3,5-triaryltriazines in trifluoroacetic acid. Alkylations of imines with trimethyloxonium tetrafluoroborate and triphenylmethyl cation give highly sensitive quaternary iminium salts in the ball-mill. The products are characterized by spectroscopic techniques and d. functional theory (DFT) calcns. at the B3LYP 6-31G* level. Mol. movements in the crystal and surface passivation are investigated with atomic force microscopy (AFM) techniques.

IT 273933-52-1P

RL: SPN (Synthetic preparation); PREP (Preparation)

(solid-state synthesis and reactions of iminium salts)

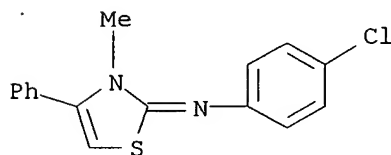
IT 273933-52-1P

RL: SPN (Synthetic preparation); PREP (Preparation)

(solid-state synthesis and reactions of iminium salts)

RN 273933-52-1 HCAPLUS

CN Benzenamine, 4-chloro-N-(3-methyl-4-phenyl-2(3H)-thiazolylidene)-, monohydrobromide (9CI) (CA INDEX NAME)



● HBr

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Ali, R	1989	28B	526	Indian J Chem	HCAPLUS
Asherson, J	1981		3041	J Chem Soc Perkin Tr	HCAPLUS
Benedetti, F	1991	121	401	Gazz Chim Ital	HCAPLUS
Bertolasi, V	1998	54	50	Acta Cryst B	
Calo, V	1996	52	2155	Tetrahedron	HCAPLUS
Cohn, P	1901	14	313	Angew Chem	
Cooper, F	1955		991	J Chem Soc	HCAPLUS
Dehmlow, E	1982		2062	Justus Liebigs Ann C	HCAPLUS
Ebara, N	1961	34	1151	Bull Chem Soc Jpn	HCAPLUS
Fritsch, P	1901	315	140	Justus Liebigs Ann C	
Garashchenko, Z	1982	52	1884	J Gen Chem USSR	
Haering, M	1963	46	2970	Helv Chim Acta	HCAPLUS
Hantzsch, A	1901	34	822	Chem Ber	HCAPLUS
Hesse, G	1976		996	Justus Liebigs Ann C	HCAPLUS
Hunig, S	1963	667	72	Justus Liebigs Ann C	
Iguchi, S	1959	7	323	Chem Pharm Bull	HCAPLUS

Jirkovsky, I	1974	52	55	Can J Chem	HCAPLUS
Kaupp, G	1999	111	3073	Angew Chem	
Kaupp, G	1999	38	2896	Angew Chem Int Ed En	HCAPLUS
Kaupp, G	1997	31	129	Chemie unserer Zeit,	HCAPLUS
Kaupp, G				Chemosphere, in pres	
Kaupp, G	1996	8	381	Comprehensive Supram	HCAPLUS
Kaupp, G	1998	340	346	J Prakt Chem	HCAPLUS
Kaupp, G				Tetrahedron, in pres	
Kim, D	1995	32	1581	J Heterocycl Chem	HCAPLUS
Loehlin, J	1994	6	1218	Chemistry of Materia	HCAPLUS
Madelung, W	1926	114	18	J Prakt Chem	
Madsen, P	1998	41	5150	J Med Chem	HCAPLUS
Maiti, B	1998	37B	710	Indian J Chem	HCAPLUS
Miller, T	1938	60	1738	J Am Chem Soc	HCAPLUS
Minkin, V	1965	35	397	J Gen Chem USSR	HCAPLUS
Moehrle, H	1992	325	695	Arch Pharm	HCAPLUS
Pierce, J	1982	25	131	J Med Chem	HCAPLUS
Ramalingam, K	1972	10	62	Indian J Chem	HCAPLUS
Ratner, S	1937	59	200	J Am Chem Soc	HCAPLUS
Regitz, M	1969	728	99	Justus Liebigs Ann C	HCAPLUS
Schmeyers, J	1998		989	J Chem Soc Perkin II	HCAPLUS
Shadbolt, R	1971		1667	J Chem Soc C	HCAPLUS
Sharpe, C	1971	14	977	J Med Chem	HCAPLUS
Struve, G	1894	250	303	J Prakt Chem	
Takahashi, I	1990	46	661	Acta Cryst B	
Westerwelle, U	1995	60	2269	J Org Chem	
Wilson, W	1955		2943	J Chem Soc	HCAPLUS
Yamada, K	1973	46	2504	Bull Chem Soc Jpn	HCAPLUS

L70 ANSWER 7 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1998:377388 HCAPLUS

DN 129:122609

TI Synthesis of some new benzimidazoles bearing different heterocyclic moieties. Part III

AU Mahmoud, A. M.; El-Ezbawy, S. R.; El-Sherief, H. A. H.; Sarhan, Abd El-Wareth A. O.

CS Chem. Dep., Assiut Univ. Faculty Science, Assiut, 71516, Egypt

SO Revue Roumaine de Chimie (1997), 42(12), 1155-1163

CODEN: RRCHAX; ISSN: 0035-3930

PB Editura Academiei Romane

DT Journal

LA English

AB Interaction of 2-(p-aminophenyl)benzimidazole (I) with chloroacetyl chloride afforded the N-chloroacetyl derivative II, which was also obtained from the cycloaddn. reaction of chloroacetyl chloride to Schiff bases. Reaction of II with mercaptans and/or secondary amines is reported. Condensation of I with aromatic aldehydes afforded Schiff bases, which on cyclocondensation with mercaptoacetic acid gave 4-thiazolidinones. Reaction of I with substituted isothiocyanates furnished thiourea derivs., which condensed with chloroacetic acid or its ester to form thiazolidinones.

IT 210222-40-5P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation and antibacterial activity of benzimidazoles)

IT 210222-42-7P 210222-44-9P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and antibacterial activity of benzimidazoles)

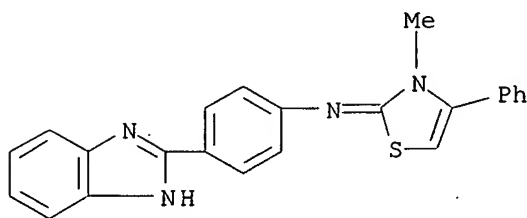
IT 210222-40-5P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(preparation and antibacterial activity of benzimidazoles)

RN 210222-40-5 HCAPLUS

CN Benzenamine, 4-(1H-benzimidazol-2-yl)-N-(3-methyl-4-phenyl-2(3H)-thiazolylidene)- (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Abdel-Rahman, A	1983	38	589	Pharmazie	HCAPLUS
Abou-Ouf, A	1971	14	443	J Med Chem	MEDLINE
Akerblom, E	1974	17	609	J Med Chem	HCAPLUS
Bahadur, S	1979	34	570	Pharmazie	HCAPLUS
Charles, E	1979	14	435	Eur J Med Chem	HCAPLUS
Chatterjee, B	1929		2965	J Chem Soc	
Chaturvedi, K	1978	15	57	Indian Drugs	HCAPLUS
El-Sherief, H	1983	60	58	J Ind Chem Soc	HCAPLUS
Evankar, G	1964	2	489	Indian J Chem	
Fisher, O	1889	22	645	Chem Ber	
King, F	1949		1401	J Chem Soc London	HCAPLUS
Labouta, I	1989	120	571	Monatsherie fur Chem	HCAPLUS
Mahmoud, A	1982	32	45	Acta Pharm Jugosl	HCAPLUS
Mahmoud, A	1981	16	383	Eur J Med Chem	HCAPLUS
Mayer, R	1941		3	Rev Medical France	HCAPLUS
Mehta, K	1978	166	836	Ind J Chem	
Mehta, K	1978	50	81	J Inst Chem India	HCAPLUS
Merchant, J	1980		791	Chemistry and Indust	HCAPLUS
Nicholass, E	1928	186	1767	Compt Rend	
Patel, P	1973	50	287	J Indian Chem Soc	HCAPLUS
Preston, P	1974	74	279	Chem Rev	HCAPLUS
Wilson, J	1983	36	2317	Aust J Chem	HCAPLUS
Yan, S	1978	15	297	J Heterocyclic Chem	HCAPLUS

L70 ANSWER 8 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1993:448840 HCAPLUS

DN 119:48840

TI Electron impact mass spectrometry and metastable ion studies on some 2-(o-hydroxyphenyl)-2(3H)-thiazoline-imine and 1,3,4-thiadiazine derivatives

AU Hadjieva, P.; Kalcheva, V.; Tosheva, M.; Danieli, B.; Catinella, S.

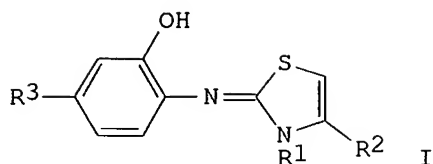
CS Dep. Chem., Univ. Kliment Ochridsky, Sofia, 1126, Bulg.

SO Rapid Communications in Mass Spectrometry (1993), 7(3), 245-50

CODEN: RCMSEF; ISSN: 0951-4198

DT Journal

LA English
GI



AB The electron-impact induced mass spectrometric behavior of nine 2-(o-hydroxyphenyl)-2(3H)imino-4-thiazolines (I; R1, R2, R3 given: Me, Me, H; Et, Me, H; Pr, Me, H; PhCH2, Me, H; PhCH2, Me, Cl; PhCH2, Me, NO2; Pr, Ph, H; Bu, Ph, H; NH2, Me, H) and 2-(o-hydroxyphenyl)imino-1,3,4-thiadiazine was studied in detail with the aid of accurate mass measurements, linked-scans for metastable-ion studies and deuterium-labeling expts. The related fragmentation pathways are strongly dependent on the presence of a substituent nitrogen atom in position 3, which can promote a hydrogen rearrangement process on the imine nitrogen and the further cleavage of the imine bond. In the case of an aryl substituent, specific fragmentation channels are activated, due to the high stability of the resultant product ions.

IT 148474-16-2 148474-17-3

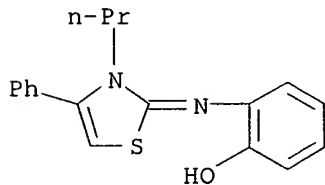
RL: PRP (Properties)
(mass spectrum of)

IT 148474-16-2

RL: PRP (Properties)
(mass spectrum of)

RN 148474-16-2 HCAPLUS

CN Phenol, 2-[(4-phenyl-3-propyl-2(3H)-thiazolylidene)amino]- (9CI) (CA INDEX NAME)



L70 ANSWER 9 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1992:426475 HCAPLUS

DN 117:26475

TI Studies on synthesis of some quinazolinones bearing different heterocyclic moieties with expected biological activity

AU Hassan, H. Y.; Ismaiel, A. A.; El-Sherief, H. A. H.

CS Fac. Pharm., Assiut Univ., Assiut, Egypt

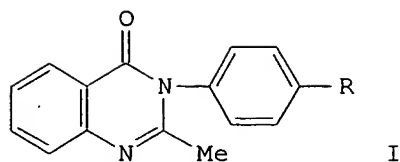
SO European Journal of Medicinal Chemistry (1991), 26(7), 743-8

CODEN: EJMCA5; ISSN: 0223-5234

DT Journal

LA English

GI



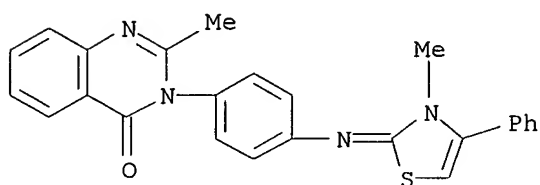
AB Several antimicrobial quinazolinones I (R = NHC(S)NHR₁, R₁ = Me Et, Bu, CH₂Ph, Bz, cyclohexyl; R = 3-alkyl-4-aryl-2,3-dihydrothiazol-2-ylideneamino, 3-alkyl-4-oxothiazolidin-2-ylideneamino) were prepared from I (R = NH₂) by treatment with alkyl isocyanates followed by cyclocondensation with phenacyl bromides or ClCH₂CO₂H.

IT 138802-36-5P 138802-37-6P 138802-38-7P
138802-39-8P 138802-40-1P 138802-41-2P
138802-42-3P 138802-43-4P 138802-44-5P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation and antimicrobial activity of)

IT 138802-36-5P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation and antimicrobial activity of)

RN 138802-36-5 HCAPLUS

CN 4(3H)-Quinazolinone, 2-methyl-3-[4-[(3-methyl-4-phenyl-2(3H)-thiazolylidene)amino]phenyl]- (9CI) (CA INDEX NAME)



L70 ANSWER 10 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1990:77226 HCAPLUS

DN 112:77226

TI 5-Lipoxygenase-inhibiting 4-(4-phenyl-1-piperazinyl)phenols and their preparation and pharmaceutical compositions

IN Van Wauwe, Jean Pierre Frans; Heeres, Jan; Backx, Leo Jacobus Jozef

PA Janssen Pharmaceutica N. V., Belg.

SO Eur. Pat. Appl., 40 pp.
CODEN: EPXXDW

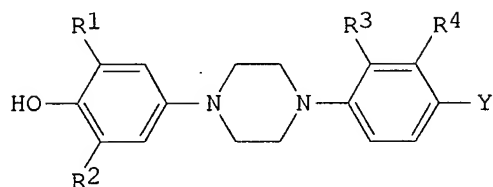
DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 331232	A2	19890906	EP 1989-200424	19890221

EP 331232	A3	19910424		
EP 331232	B1	19940518		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
CA 1331757	A1	19940830	CA 1989-587830	19890110
US 4931444	A	19900605	US 1989-297010	19890112
JP 02003678	A2	19900109	JP 1989-38486	19890220
JP 07005564	B4	19950125		
AT 105711	E	19940615	AT 1989-200424	19890221
ES 2056190	T3	19941001	ES 1989-200424	19890221
AU 8930739	A1	19890831	AU 1989-30739	19890224
AU 615519	B2	19911003		
DK 8900918	A	19890830	DK 1989-918	19890227
FI 8900931	A	19890830	FI 1989-931	19890227
FI 97383	B	19960830		
FI 97383	C	19961210		
NO 8900813	A	19890830	NO 1989-813	19890227
NO 174049	B	19931129		
NO 174049	C	19940309		
IL 89426	A1	19930610	IL 1989-89426	19890227
CN 1036569	A	19891025	CN 1989-100931	19890228
CN 1021223	B	19930616		
HU 52080	A2	19900628	HU 1989-927	19890228
ZA 8901547	A	19901031	ZA 1989-1547	19890228
RU 2107064	C1	19980320	RU 1989-4613548	19890228
KR 133074	B1	19980417	KR 1989-2435	19890228
HU 68931	A2	19950828	HU 1993-3071	19931028
PRAI US 1988-161825	A	19880229		
EP 1989-200424	A	19890221		
HU 1989-927	A	19890228		
OS MARPAT 112:77226				
GI				



AB Over 220 title compds. I [R1, R2 = H, halo, C1-6 alkyl; R3, R4 = H, halo, NH2, NO2, CF3; Y = H, NO2, NH2, mono- or dialkylamino, alkylcarbonylamino, C1-6 alkyl, alkylcarbonyl, OH, halo, mono- or dialkylaminosulfonyl, various (un)substituted 5- or 6-membered N-containing heterocycles with optional O or S atoms] and/or their acid addition salts and stereoisomers were prepared as selective inhibitors of 5-lipoxygenase. Thus, 4-[4-(4-methoxyphenyl)-1-piperazinyl]benzenamine was condensed with (MeO)2CHCH2NCS to give the thiourea (36%), followed by cyclization in HCO2H to give a dihydromethoxythiazolamine (52%), alkylation with EtBr and NaOH in DMF (44.4%) and demethylation/elimination using 48% HBr (81.5%) to give I [R1-R4 = H, Y = ethyl(2-thiazolyl)amino]. Various I gave up to 100% inhibition of 5-lipoxygenase in vitro at 2.5 mM and up to 94% inhibition of dextran-induced mouse-ear edema at 10 mg/kg orally. Capsules, tablets, oral and injectable solns., and other forms containing I

were prepared

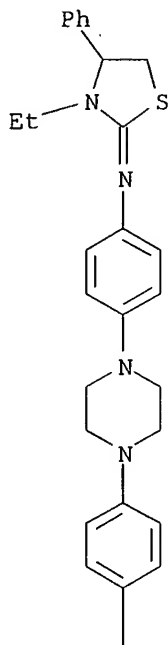
IT 125234-74-4P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of, as lipoxygenase inhibitor)

IT 125234-74-4P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of, as lipoxygenase inhibitor)

RN 125234-74-4 HCAPLUS

CN Phenol, 4-[4-[4-[(3-ethyl-4-phenyl-2-thiazolidinylidene)amino]phenyl]-1-piperazinyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L70 ANSWER 11 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1986:56408 HCAPLUS

DN 104:56408

TI Inclusion compound of N,N-dimethyl-2-chloro-5-[3-methyl-2-(phenylimino)-4-thiazolin-4-yl]phenylsulfonamide with hypolipemic properties

IN Seidel, Heinz Ruediger

PA Hoechst A.-G., Fed. Rep. Ger.

SO Ger. Offen., 7 pp.

CODEN: GWXXBX
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3329517	A1	19850228	DE 1983-3329517	19830816
	EP 141076	A1	19850515	EP 1984-109377	19840808
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	ES 535135	A1	19851116	ES 1984-535135	19840814
	DK 8403923	A	19850217	DK 1984-3923	19840815
	AU 8431961	A1	19850221	AU 1984-31961	19840815
	ZA 8406327	A	19850327	ZA 1984-6327	19840815
	JP 60058969	A2	19850405	JP 1984-169454	19840815
PRAI	DE 1983-3329517	A	19830816		

AB The dissoln. rate and absorption of HCG 497 [N,N-dimethyl-2-chloro-5-[3-methyl-2-(phenylimino)-4-thiazolin-4-yl]phenylsulfonamide] are enhanced by complexing with β -cyclodextrin. Thus, 100 g β -cyclodextrin in 360 mL H₂O was treated with 16.32 g HCG 497 and 48 mL 1N HCl to give the inclusion complex. HCG 497 showed a much higher dissoln. rate from capsules containing the complex, compared to capsules containing HCG 497 as such.

The complex can therefore be used in hypolipemic preps.

IT 99941-82-9P

RL: PREP (Preparation)

(preparation of, as hypolipemic with enhanced dissoln. and absorption)

IT 99941-82-9P

RL: PREP (Preparation)

(preparation of, as hypolipemic with enhanced dissoln. and absorption)

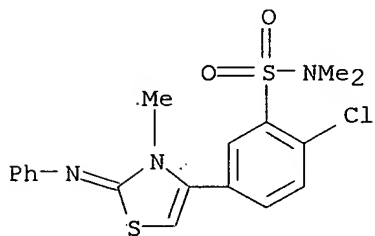
RN 99941-82-9 HCAPLUS

CN β -Cyclodextrin, compd. with 2-chloro-5-[2,3-dihydro-3-methyl-2-(phenylimino)-4-thiazolyl]-N,N-dimethylbenzenesulfonamide (9CI) (CA INDEX NAME)

CM 1

CRN 77989-60-7

CMF C18 H18 Cl N3 O2 S2



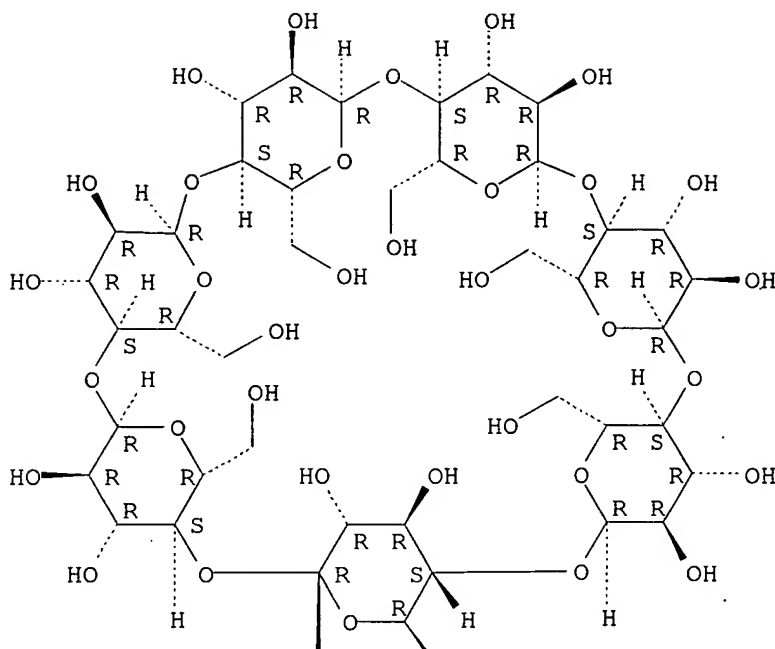
CM 2

CRN 7585-39-9

CMF C42 H70 O35

Absolute stereochemistry.

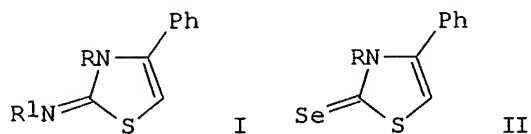
PAGE 1-A



PAGE 2-A



L70 ANSWER 12 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1985:437403 HCAPLUS
 DN 103:37403
 TI Introduction of selenium to heterocyclic compounds. Part IV. Structure
 of 2-imino-4-thiazoline derivatives
 AU Korohoda, Maria Jolanta; Bojarska, Aleksandra Barbara
 CS Dep. Chem., Pedagog. Coll., Krakow, 30084, Pol.
 SO Polish Journal of Chemistry (1984), 58(4-5-6), 447-53
 CODEN: PJCHDQ; ISSN: 0137-5083
 DT Journal
 LA English
 OS CASREACT 103:37403
 GI



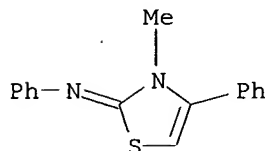
AB The title compds. I (R = Me, Et, Ph, substituted Ph, R1 = Ph, substituted Ph) were prepared in 70.5-97.0% yields by cyclocondensation of BrCH₂COPh with RNHCSNHR1. Methylation of I by Me₂SO₄ followed by reaction with NaHSe gave 38.5-85.0% thiazolines II (R = Me, Et, Ph, p-tolyl, p-MeOC₆H₄).

IT 97118-81-5P 97118-82-6P 97118-83-7P
97118-84-8P 97118-85-9P 97118-86-0P
97118-87-1P 97118-88-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and sequential methylation and reaction with sodium hydrogen selenide)

IT 97118-81-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and sequential methylation and reaction with sodium hydrogen selenide)

RN 97118-81-5 HCAPLUS

CN Benzenamine, N-(3-methyl-4-phenyl-2(3H)-thiazolylydene)- (9CI) (CA INDEX NAME)



L70 ANSWER 13 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1983:72082 HCAPLUS

DN 98:72082

TI Thiazoline derivatives, their use and their pharmaceutical preparations

IN Lang, Hans Jochen; Seuring, Bernhard; Granzer, Ernold

PA Hoechst A.-G., Fed. Rep. Ger.

SO Eur. Pat. Appl., 45 pp.
CODEN: EPXXDW

DT Patent

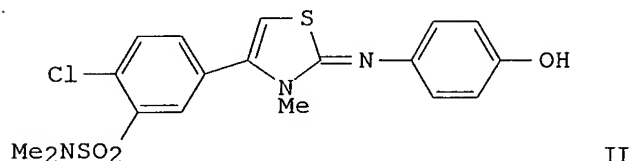
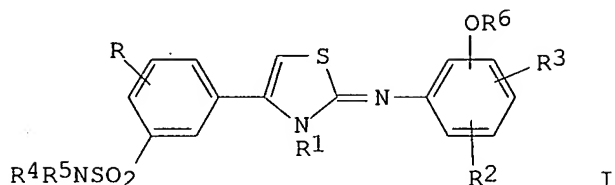
LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 55458	A2	19820707	EP 1981-110677	19811222
	EP 55458	A3	19821020		
	EP 55458	B1	19850213		
	R: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	DE 3049460	A1	19820729	DE 1980-3049460	19801230
	AT 11778	E	19850215	AT 1981-110677	19811222
	ES 508293	A1	19830401	ES 1981-508293	19811223
	FI 8104175	A	19820701	FI 1981-4175	19811228
	JP 57134472	A2	19820819	JP 1981-210093	19811228
	US 4421757	A	19831220	US 1981-335149	19811228
	IL 64653	A1	19850929	IL 1981-64653	19811228
	DK 8105811	A	19820701	DK 1981-5811	19811229
	NO 8104468	A	19820701	NO 1981-4468	19811229
	NO 154551	B	19860707		
	ZA 8108968	A	19821124	ZA 1981-8968	19811229
	HU 26885	O	19830928	HU 1981-3984	19811229

HU 184976	B	19841128		
CA 1173836	A1	19840904	CA 1981-393285	19811229
AU 8179068	A1	19820708	AU 1981-79068	19811230
AU 542670	B2	19850228		
ES 518272	A1	19830901	ES 1982-518272	19821216
ES 518273	A1	19830901	ES 1982-518273	19821216
ES 518274	A1	19830901	ES 1982-518274	19821216
ES 518271	A1	19840216	ES 1982-518271	19821216
PRAI DE 1980-3049460	A	19801230		
EP 1981-110677	A	19811222		

GI



- AB Thiazolines I (R = H, halo, Me; R1 = C1-3 alkyl; R2, R3 = H, halo, C1-4 alkyl or alkoxy; R4, R5 = H, C1-4 alkyl; N R4R5 = saturated ring with ≤6 members; R6 = H, C1-4 acyl), useful in lowering cholesterol in serum very low and low d. lipoproteins with little or no effect on high d. lipoproteins and thus useful in treating atherosclerosis, were prepared by 5 methods. MeNHCSNHC6H4OH-4 and COCl2 in THF gave ClC(NHMe):NC6H4OH-4.HCl which cyclized with 4,3-Cl(Me2NSO)2C6H3COCH2SH in Me2CHOH by treating the mixture successively with NEt3 in a little Me2CHOH, CHCl3 with overnight stirring, and AcOH to give II. Rats were treated with 10 mg/kg II per day orally for 7 days; this treatment lowered cholesterol in serum 9%, in the very low d. serum lipoprotein 54%, in low d. lipoprotein 17%, and in high d. serum lipoprotein 4%.
- IT **84386-25-4**
RL: PROC (Process)
(acidification of)
- IT **84386-62-9P 84386-80-1P 84387-57-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and alkalization of)
- IT **84386-25-4P 84386-40-3P 84386-47-0P 84387-52-0P**
RL: SPN (Synthetic preparation); PREP (Preparation),
(preparation and selective cholesterol lowering in very low and low d. serum lipoproteins)
- IT **84271-98-7P 84386-17-4P 84386-23-2P 84386-24-3P 84386-26-5P 84386-27-6P 84386-28-7P 84386-29-8P 84386-30-1P 84386-31-2P 84386-32-3P 84386-33-4P**

84386-34-5P 84386-35-6P 84386-36-7P
 84386-37-8P 84386-38-9P 84386-39-0P
 84386-41-4P 84386-42-5P 84386-43-6P
 84386-44-7P 84386-45-8P 84386-46-9P
 84386-48-1P 84386-49-2P 84386-50-5P
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 84386-79-8P 84386-81-2P 84386-82-3P
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 84386-92-5P 84386-93-6P 84386-94-7P
 84386-95-8P 84386-96-9P 84386-97-0P
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 84393-67-9P 84393-68-0P 84405-60-7P
 84405-61-8P 84405-62-9P 84405-63-0P
 84405-64-1P 84405-65-2P 84405-66-3P
 84405-67-4P 84405-68-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

IT 84386-19-6P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation, acylation of, and cholesterol lowering in very low and low d.
 serum lipoproteins)

IT 84387-49-5P

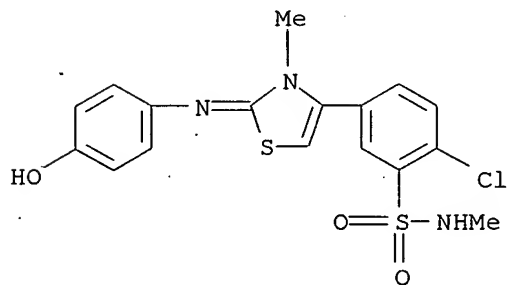
RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation, saponification of, and selective cholesterol lowering in very
 low and low d. serum lipoproteins)

IT 84386-25-4

RL: PROC (Process)
 (acidification of)

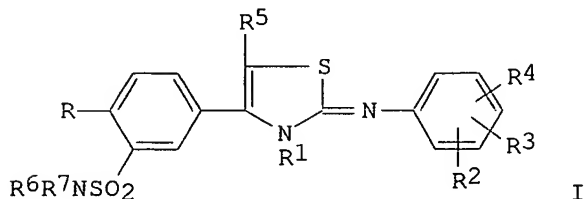
RN 84386-25-4 HCAPLUS

CN Benzenesulfonamide, 2-chloro-5-[2,3-dihydro-2-[(4-hydroxyphenyl)imino]-3-
 methyl-4-thiazolyl]-N-methyl- (9CI) (CA INDEX NAME)



L70 ANSWER 14 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1981:425048 HCAPLUS
 DN 95:25048
 TI Thiazolidine derivatives or their pharmacologically compatible acid
 addition salts
 IN Lang, Hans Jochen; Seuring, Bernhard; Granzer, Ernold
 PA Hoechst A.-G., Fed. Rep. Ger.
 SO Ger. Offen., 110 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2926771	A1	19810115	DE 1979-2926771	19790703
	ES 492847	A1	19810216	ES 1980-492847	19800627
	ES 492871	A1	19810216	ES 1980-492871	19800627
	ES 492872	A1	19810216	ES 1980-492872	19800627
	ES 492873	A1	19810216	ES 1980-492873	19800627
	ES 492874	A1	19810216	ES 1980-492874	19800627
	EP 23964	A1	19810218	EP 1980-103688	19800628
	EP 23964	B1	19830216		
	R: AT, BE, CH, DE, FR, GB, IT, NL, SE				
	AT 2524	E	19830315	AT 1980-103688	19800628
	FI 8002094	A	19810104	FI 1980-2094	19800701
	US 4346088	A	19820824	US 1980-165218	19800701
	DK 8002865	A	19810104	DK 1980-2865	19800702
	NO 8001995	A	19810105	NO 1980-1995	19800702
	NO 154132	B	19860414		
	AU 8060037	A1	19810115	AU 1980-60037	19800702
	AU 533589	B2	19831201		
	ZA 8003979	A	19810624	ZA 1980-3979	19800702
	HU 24426	O	19830228	HU 1980-1643	19800702
	HU 182164	B	19831228		
	CA 1156240	A1	19831101	CA 1980-355222	19800702
	IL 60468	A1	19841130	IL 1980-60468	19800702
	IL 70114	A1	19841130	IL 1980-70114	19800702
	JP 56010180	A2	19810202	JP 1980-91605	19800703
	NO 8404120	A	19810105	NO 1984-4120	19841016
PRAI	DE 1979-2926771	A	19790703		
	EP 1980-103688	A	19800628		
	IL 1980-60468	A3	19800702		
GI					



AB Anticholesteremic (no data) thiazolines I (R = H, halogen, alkyl; R1 = alkyl, cycloalkyl, alkenyl; R2-R4 = H, halogen, alkyl, alkoxy, OCH2O, OCH2CH2O, NMe2, NEt2, CF3; R5, R6 = H, alkyl; R7 = H, alkyl, cycloalkyl, allyl, CH2CH2Ph, optionally substituted CH2Ph; NR6R7 = heterocyclic) were

prepared Thus, cyclocondensation of 4,3-Cl(Me₂NSO₂)C₆H₃COCH₂Br with PhNHCSNHMe gave a thiazolidinol whose dehydration with acid gave I (R = Cl, R₁ = R₆ = R₇ = Me, R₂-R₅ = H).

IT 77990-93-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and amination of)

IT 77989-59-4P 77989-60-7P 77989-61-8P

77989-62-9P 77989-63-0P 77989-64-1P

77989-65-2P 77989-66-3P 77989-67-4P

77989-68-5P 77989-69-6P 77989-70-9P

77989-71-0P 77989-72-1P 77989-73-2P

77989-74-3P 77989-75-4P 77989-76-5P

77989-77-6P 77989-78-7P 77989-79-8P

77989-80-1P 77989-81-2P 77989-82-3P

77989-83-4P 77989-84-5P 77989-85-6P

77989-86-7P 77989-90-3P 77989-91-4P

77989-92-5P 77989-93-6P 77989-94-7P

77989-95-8P 77989-98-1P 77989-99-2P

77990-00-2P 77990-01-3P 77990-04-6P

77990-05-7P 77990-06-8P 77990-07-9P

77990-08-0P 77990-09-1P 77990-10-4P

77990-11-5P 77990-12-6P 77990-13-7P

77990-14-8P 77990-15-9P 77990-16-0P

77990-17-1P 77990-18-2P 77990-19-3P

77990-20-6P 77990-21-7P 77990-22-8P

77990-23-9P 77990-25-1P 77990-26-2P

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77990-32-0P 77990-33-1P 77990-34-2P

77990-35-3P 77990-36-4P 77990-37-5P

77990-38-6P 77990-39-7P 77990-40-0P

77990-41-1P 77990-42-2P 77990-43-3P

77990-44-4P 77990-45-5P 77990-46-6P

77990-47-7P 77990-48-8P 77990-49-9P

77990-50-2P 77990-51-3P 77990-52-4P

77990-53-5P 77990-54-6P 77990-55-7P

77990-56-8P 77990-57-9P 77990-58-0P

77990-59-1P 77990-60-4P 77990-62-6P

77990-63-7P 77990-64-8P 77990-65-9P

77990-66-0P 77990-67-1P 77990-68-2P

77990-69-3P 77990-70-6P 77990-71-7P

77990-74-0P 77990-75-1P 77990-76-2P

77990-77-3P 77990-78-4P 77990-79-5P

77990-80-8P 77990-81-9P 77990-83-1P

77990-84-2P 77990-85-3P 77990-86-4P

77990-87-5P 77990-88-6P 77990-89-7P

77990-90-0P 77990-91-1P 77990-92-2P

78006-60-7P 78006-61-8P 78006-62-9P

78006-63-0P 78006-64-1P 78006-65-2P

78006-67-4P 78006-68-5P 78006-69-6P

78020-29-8P 78134-35-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

IT 77990-93-3P

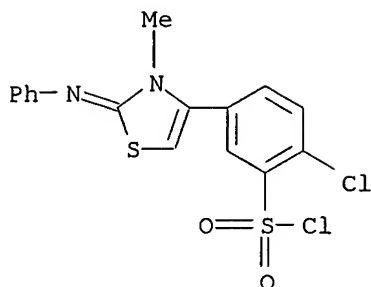
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and amination of)

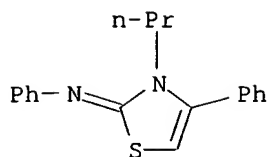
RN 77990-93-3 HCAPLUS

CN Benzenesulfonyl chloride, 2-chloro-5-[2,3-dihydro-3-methyl-2-(phenylimino)-

4-thiazolyl]-, monohydrobromide (9CI) (CA INDEX NAME)

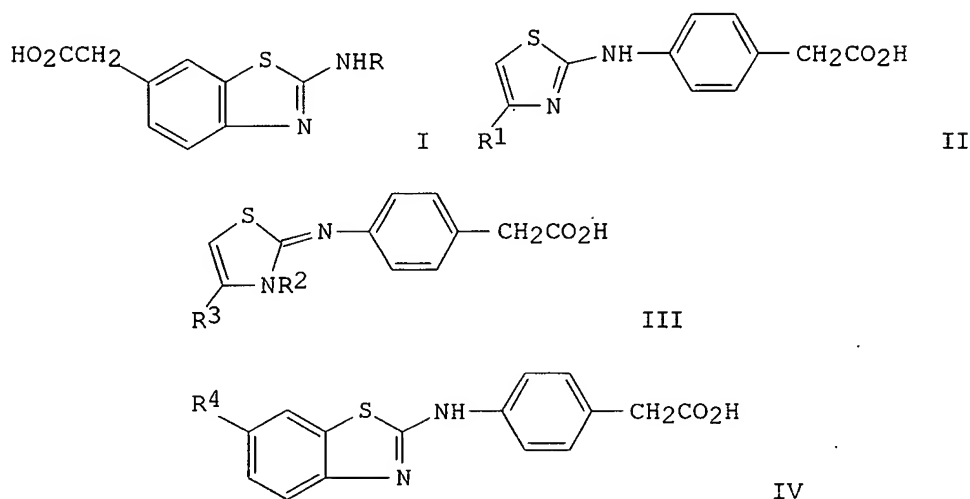


L70 ANSWER 15 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1979:87338 HCAPLUS
 DN 90:87338
 TI Studies on heterocyclic cation systems. Part XII. Reactions of 2-dialkylamino-5-phenyl-1,3-oxathiolium cation with nucleophiles containing an amino group
 AU Hirai, Kentaro; Ishiba, Teruyuki
 CS Shionogi Res. Lab., Shionogi and Co., Ltd., Osaka, Japan
 SO Chemical & Pharmaceutical Bulletin (1978), 26(10), 3017-22
 CODEN: CPBTAL; ISSN: 0009-2363
 DT Journal
 LA English
 OS CASREACT 90:87338
 GI For diagram(s), see printed CA Issue.
 AB Reactions of 2-dialkylamino-1,3-oxathioliums (I) (NR₂ = piperidino, morpholino, NMe₂; X = ClO₄, HSO₄) with amino-nucleophiles provide simple access to a variety of heterocyclic compds. Thiadiazines and thiazoles were readily obtained from the reaction with hydrazines and NH₃, resp. The intermediates, which were easily converted into thiazoles, were also isolated. Reaction of I with aromatic amines gave ring-opened ketones and 2-arylimino-1,3-oxathioles, depending upon the reaction conditions. Reactions of I with aromatic and aliphatic amines in boiling HOAc gave 2-iminothiazoline derivs.
 IT **68981-15-7P**
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)
 IT **68981-15-7P**
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)
 RN 68981-15-7 HCAPLUS
 CN Benzenamine, N-(4-phenyl-3-propyl-2(3H)-thiazolylidene)-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

L70 ANSWER 16 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1979:22879 HCAPLUS
 DN 90:22879
 TI Synthesis and antiinflammatory activity of 2-amino- and 2-alkylamino-6-benzothiazoleacetic acids, 4-(2'-benzothiazolylamino)-, 4-(4'-substituted-2-thiazolylamino)- and 4-(4'-substituted-3'-alkyl-Δ4'-thiazoline-2'-imino)phenylacetic acids
 AU Sawhney, S. N.; Arora, S. K.; Singh, J. V.; Bansal, O. P.; Singh, S. P.
 CS Dep. Chem., Kurukshetra Univ., Kurukshetra, India
 SO Indian Journal of Chemistry, Section B: Organic Chemistry Including Medicinal Chemistry (1978), 16B(7), 605-9
 CODEN: IJSBDB; ISSN: 0376-4699
 DT Journal
 LA English
 OS CASREACT 90:22879
 GI



AB Thiazoles and benzothiazoles containing the CH₂CO₂H moiety were prepared and some were tested for antiinflammatory activity. The compds. are I (R = H, Me, Et, Pr, Bu), II (R₁ = Me, Ph or substituted phenyl), III (R₂ = Me, Et; R₃ = Ph or substituted phenyl), and IV (R₄ = H, Me, MeO, Cl, Br, NO₂). E.g., I and III were prepared by thiocyanation of p-H₂NC₆H₄CH₂CO₂H to give phenylthioureas, which underwent cyclization in the presence of Br or cyclocondensation with R₃COCH₂Br. III (R₂ = Et, R₁ = p-tolyl) showed a

38.2% inhibition of carrageenin-induced edema in the rat at 120 mg/kg.

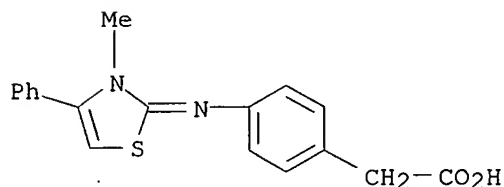
IT 68194-87-6P 68194-95-6P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
 (preparation and antiinflammatory activity of)

IT 68194-88-7P 68194-89-8P 68194-90-1P
 68194-91-2P 68194-92-3P 68194-93-4P
 68194-94-5P 68195-04-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

IT 68194-87-6P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
 (preparation and antiinflammatory activity of)

RN 68194-87-6 HCAPLUS

CN Benzeneacetic acid, 4-[(3-methyl-4-phenyl-2(3H)-thiazolylidene)amino]-
 (9CI) (CA INDEX NAME)



=> d his

(FILE 'HOME' ENTERED AT 07:43:08 ON 27 APR 2005)

FILE 'HCAPLUS' ENTERED AT 07:43:15 ON 27 APR 2005

L1 3025 S THOMAS C?/AU
 E WINDSOR J/AU

L2 13 S E3 OR E5 OR E6 OR E9

L3 356 S ROUX S?/AU

L4 655 S LLOYD A?/AU

L5 523 S HURLEY L?/AU

L6 4538 S L1-L5

L7 7 S L6 AND ABC (5A)TRANSPORTER?

L8 7 S L6 AND ECTO(A) PHOSPHATASE?

L9 9 S L7 OR L8
 SELECT L9 RN 1-9

FILE 'REGISTRY' ENTERED AT 07:47:48 ON 27 APR 2005

L10 66 S E1-E66

L11 STR

L12 0 S L11

L13 0 S L11 FUL

L14 STR L11

L15 33 S L14

L16 3856 S L14 FUL

L17 0 S L10 AND L16

L18 STR L14

L19 33 S L18
 L20 3873 S L18 FUL
 L21 STR
 SAVE TEMP L18 HAN251STR/Q
 SAVE TEMP L20 HAN251FUL/A
 L22 0 S L21 SUB=L20 SAM
 L23 0 S L21 FUL SUB=L20
 L24 STR L21
 L25 0 S L24
 L26 0 S L24 SUB=L20 SAM
 DELETE HAN251FUL/A
 DELETE HAN251STR/Q
 L27 STR
 L28 STR L27
 L29 SCREEN 1840
 L30 50 S L28 AND L29
 L31 101049 S L28 AND L29 FUL
 L32 STR
 L33 STR L32
 SAVE TEMP L31 HAN251STR/Q
 SAVE TEMP L28 HAN251STR/Q
 SAVE TEMP L31 HAN251FUL/A
 L34 0 S L33 SAM SUB=L31
 L35 STR L33
 L36 1 S L35 FUL SUB=L31
 SAVE TEMP L36 HAN251SUB1/A
 L37 STR
 L38 50 S L37 SAM SUB=L31
 L39 4988 S L37 FUL SUB=L31
 SAVE TEMP HAN251SUB2/Q L37
 SAVE TEMP L39 HAN251FUL1A/A
 L40 STR
 L41 11 S L40 CSS SAM SUB=L39
 L42 119 S L40 CSS FUL SUB=L39
 L43 STR L40
 L44 4619 S L43 CSS FUL SUB=L39

FILE 'HCAPLUS' ENTERED AT 10:55:59 ON 27 APR 2005

L45 7 S L44 AND L6
 L46 23 S L44 AND P/DT

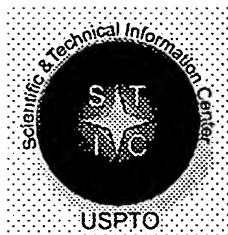
FILE 'REGISTRY' ENTERED AT 10:58:13 ON 27 APR 2005

L47 20779 S ?PHOSPHATASE?/CNS

FILE 'HCAPLUS' ENTERED AT 11:01:31 ON 27 APR 2005

L48 7 S L44 AND (L47 OR ?PHOSPHATASE?)
 E A/RL
 L49 8 S L44 (L) AGRICULTURAL USE/RL
 L50 13 S L44 AND (AGR? OR PLANT?)/SC, SX, CT, CW, BI
 L51 8 S L44 AND ?HERBICID?
 L52 8 S L44 AND ?INSECTICID?
 L53 1 S L44 AND ?PARASIT?
 L54 3 S L44 AND WEED?
 L55 4 S L44 AND PESTICID?
 L56 3 S L44 AND (PEA# OR CARROT# OR FLOWER# OR RICE# OR WHEAT?)
 E DRUG RESISTANCE/CT
 E DRUG RESISTANCE/CT
 E DRUG RESISTANCE/CT
 L57 4 S E3+OLD, NT, PFT, RT AND L44

L58 E TRANSPORT PROTEINS/CT
6 S TRANSPORT PROTEINS/CT (L)ABC AND L44
FILE 'REGISTRY' ENTERED AT 11:16:01 ON 27 APR 2005
FILE 'HCAPLUS' ENTERED AT 11:16:22 ON 27 APR 2005
L59 7 S L36
FILE 'CAOLD' ENTERED AT 11:25:01 ON 27 APR 2005
L60 1 S L44
SELECT AN
EDIT /AN /OREF
FILE 'HCAPLUS' ENTERED AT 11:30:34 ON 27 APR 2005
L61 2 S E1
SELECT AN L61 1
L62 1 S E2-E3
L63 31 S L44
L64 1 S L62 AND L63
L65 15 S L45 OR L48-L59
L66 8 S L65 AND P/DT NOT L6
L67 1 S L62 AND L66
L68 7 S L66 NOT L67
L69 7 S L65 NOT L66-L68
L70 16 S L63 NOT L64-L69
FILE 'HCAPLUS' ENTERED AT 12:06:15 ON 27 APR 2005
FILE 'CAOLD' ENTERED AT 12:07:23 ON 27 APR 2005
FILE 'HCAPLUS' ENTERED AT 12:08:03 ON 27 APR 2005



STIC Search Report

Biotech-Chem Library

STIC Database Tracking Number: 151085, 151710

TO: Susan Hanley
Location: rem/3d70/3e71
Art Unit: 1651
Tuesday, April 26, 2005

Case Serial Number: 10/047251

From: Mary Jane Ruhl
Location: Biotech-Chem Library
Remsen 1-A-62
Phone: 571-272-2524

maryjane.ruhl@uspto.gov

Search Notes

Examiner Hanley,

Here are the results for your recent search request.

Please feel free to contact me if you have any questions about these results.

Thank you for using STIC services. We appreciate the opportunity to serve you.

Sincerely,

Mary Jane Ruhl
Technical Information Specialist
STIC
Remsen 1-A-62
Ext. 22524



=> d his ful

FILE 'HCAPLUS' ENTERED AT 10:38:17 ON 26 APR 2005

E THOMAS COLLIN E/AU
L5 5 SEA ABB=ON ("THOMAS COLLIN E"/AU OR "THOMAS COLLIN ERNEST"/AU
OR "THOMAS COLLIN R"/AU)
E WINDSOR J BRIAN/AU
L6 10 SEA ABB=ON ("WINDSOR J B"/AU OR "WINDSOR J BRIAN"/AU)
E ROUX STAN J/AU
L7 90 SEA ABB=ON ("ROUX STAN J"/AU OR "ROUX STANLEY"/AU OR "ROUX
STANLEY J"/AU OR "ROUX STANLEY J JR"/AU)
E LLOYD ALAN M/AU
L8 25 SEA ABB=ON ("LLOYD ALAN M"/AU OR "LLOYD ALAN MARTIN"/AU)
E HURLEY LAURENCE/AU
L9 214 SEA ABB=ON ("HURLEY LAURENCE"/AU OR "HURLEY LAURENCE H"/AU OR
"HURLEY LAURENCE HAROLD"/AU)
L10 1 SEA ABB=ON L5 AND L6 AND L7 AND L8 AND L9
SELECT RN L10 1-1

FILE 'REGISTRY' ENTERED AT 10:40:04 ON 26 APR 2005

L11 23 SEA ABB=ON (11098-84-3/BI OR 139963-64-7/BI OR 154201-55-5/BI
OR 168832-50-6/BI OR 171248-07-0/BI OR 291536-79-3/BI OR
291536-80-6/BI OR 291536-81-7/BI OR 291536-82-8/BI OR 291536-83
-9/BI OR 291536-84-0/BI OR 291536-85-1/BI OR 291536-86-2/BI OR
291536-87-3/BI OR 291536-88-4/BI OR 291536-89-5/BI OR 291536-90
-8/BI OR 291536-91-9/BI OR 291536-92-0/BI OR 41481-51-0/BI OR
50-81-7/BI OR 56-65-5/BI OR 9013-05-2/BI)

FILE 'HCAPLUS' ENTERED AT 10:40:15 ON 26 APR 2005

L12 1 SEA ABB=ON L10 AND L11
L13 ANALYZE L12 1-1 CT : 15 TERMS

FILE 'REGISTRY' ENTERED AT 10:56:06 ON 26 APR 2005

L14 STR
L15 0 SEA SSS SAM L14
L16 0 SEA SSS FUL L14
L17 STR L14
L18 STR L14
L19 0 SEA SSS SAM L18
L20 4 SEA SSS FUL L18

4 compds from Reg. for Str. IX

FILE 'HCAPLUS' ENTERED AT 11:38:47 ON 26 APR 2005

L21 10 SEA ABB=ON L20

FILE 'REGISTRY' ENTERED AT 11:39:13 ON 26 APR 2005

L22 STR
L23 0 SEA SSS SAM L22
L24 0 SEA SSS FUL L22
L25 STR L22
L26 0 SEA SSS SAM L25
L27 0 SEA SSS FUL L25
L28 STR L25
L29 0 SEA SSS SAM L28
L30 STR L28
L31 9 SEA SSS SAM L30
L32 128 SEA SSS FUL L30

128 compds from Reg for Str. XVI

FILE 'HCAPLUS' ENTERED AT 11:55:09 ON 26 APR 2005

L33 11 SEA ABB=ON L32
L34 14 SEA ABB=ON L21 OR L33

FILE 'REGISTRY' ENTERED AT 11:55:44 ON 26 APR 2005
E PHOSPHATASE/CN

L35 1 SEA ABB=ON PHOSPHATASE/CN

FILE 'HCAPLUS' ENTERED AT 11:56:17 ON 26 APR 2005

L36 7 SEA ABB=ON L34 AND ((L35 OR ?PHOSPHATAS?) (W)?INHIBIT? OR
(?DRUG? (W)?RESIST?) (4A) (?DECREAS? OR ?INHIBIT? OR ?LESSEN? OR
?PREVENT? OR ?CONTROL?) OR ?PEAS? OR ?CARROT? OR ?FLOWER? OR
?RICE? OR ?WHEAT? OR ?PLANT?)

L37 6 SEA ABB=ON L34 AND ABC

L38 14 SEA ABB=ON L34 OR L36 OR L37

14 citi from CA Plus

*Susan, I saved this & L38, should
you want any more done with it.*

M.J.

=> d ibib abs hitstr 138 1-14

L38 ANSWER 1 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:141200 HCAPLUS

DOCUMENT NUMBER: 142:254568

TITLE: Methods and compositions for increasing the efficacy of biologically-active ingredients such as antitumor agents

INVENTOR(S): Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan M.; Thomas, Collin E.

PATENT ASSIGNEE(S): Board of Regents, the University of Texas System, USA

SOURCE: PCT Int. Appl., 243 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005014777	A2	20050217	WO 2003-US32667	20031016
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRIORITY APPLN. INFO.:			US 2002-418803P	P 20021016

AB The invention provides methods and compns. for modulating the sensitivity of cells to cytotoxic compds. and other active agents. In accordance with the invention, compns. are provided comprising combinations of **ectophosphatase inhibitors** and active agents. Active agents include antibiotics, fungicides, herbicides, insecticides, chemotherapeutic agents, and **plant** growth regulators. By increasing the efficacy of active agents, the invention allows use of compns. with lowered concns. of active ingredients.

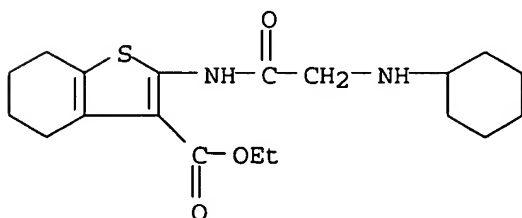
IT 154201-55-5 171248-07-0

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

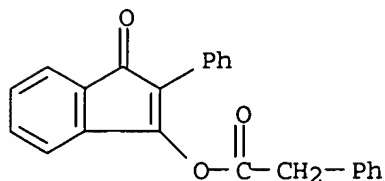
(methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

RN 154201-55-5 HCAPLUS

CN Benzo[b]thiophene-3-carboxylic acid, 2-[[cyclohexylamino)acetyl]amino]-4,5,6,7-tetrahydro-, ethyl ester (9CI) (CA INDEX NAME)



RN 171248-07-0 HCAPLUS
 CN Benzeneacetic acid, 1-oxo-2-phenyl-1H-inden-3-yl ester (9CI) (CA INDEX NAME)



L38 ANSWER 2 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:722914 HCAPLUS

DOCUMENT NUMBER: 141:236625

TITLE: Inhibitors of mycobacterial serine/threonine protein kinases for the treatment of mycobacterial infections

INVENTOR(S): Pato, Janos; Keri, Gyorgy; Orfi, Laszlo; Waczek, Frigyes; Horvath, Zoltan; Banhegyi, Peter; Szabadkai, Istavan; Marosfalvi, Jeno; Hegymegi-Barakonyi, Balint; Szekelyhidi, Zsolt; Greff, Zoltan; Choidas, Axel; Bacher, Gerald; Missio, Andrea; Koul, Anil

PATENT ASSIGNEE(S): Hung.

SOURCE: U.S. Pat. Appl. Publ., 51 pp., Cont.-in-part of Appl. No. PCT/EP03/03697.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004171603	A1	20040902	US 2003-715591	20031118
WO 2002094796	A2	20021128	WO 2002-EP5573	20020521
WO 2002094796	A3	20031204		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2003084947	A1	20031016	WO 2003-EP3697	20030409
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.:

EP 2001-112289	A	20010518
US 2001-292325P	P	20010522
US 2001-298902P	P	20010619
EP 2001-115508	A	20010627
EP 2002-7923	A	20020409
WO 2002-EP5573	A2	20020521
WO 2003-EP3697	A2	20030409

OTHER SOURCE(S): MARPAT 141:236625

AB Mycobacterial serine/threonine protein kinases, particularly protein kinase G (PknG), are effective therapeutic targets for the treatment of mycobacterial infections. The invention discloses the use of mycobacterial serine/threonine protein kinases for developing methods for detection and determination of these kinases for recognizing and monitoring diseases and for controlling therapy of diseases. Addnl. disclosed are 4,5,6,7-tetrahydrobenzo[b]thiophene compds., benzo[g]quinoxaline compds., and pharmaceutically acceptable salts thereof, and methods of using such compds. and salts thereof for the prophylaxis and/or treatment of virally and/or bacterially induced infections, particularly mycobacteria-induced infections, including opportunistic infections, as well as pharmaceutical compns. containing at least one 4,5,6,7-tetrahydrobenzo[b]thiophene compound and/or benzo[g]quinoxaline compound and/or pharmaceutically acceptable salts thereof in a pharmaceutically acceptable carrier.

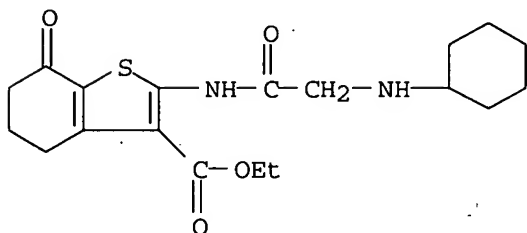
IT 296266-55-2

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(inhibitors of mycobacterial serine/threonine protein kinases for treatment of mycobacterial infections)

RN 296266-55-2 HCAPLUS

CN Benzo[b]thiophene-3-carboxylic acid, 2-[[[(cyclohexylamino)acetyl]amino]-4,5,6,7-tetrahydro-7-oxo-, ethyl ester (9CI) (CA INDEX NAME)



L38 ANSWER 3 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:818414 HCAPLUS

DOCUMENT NUMBER: 139:317414

TITLE: 4,5,6,7-tetrahydrobenzo[b]thiophene derivatives and methods for medical intervention against mycobacterial infections

INVENTOR(S): Missio, Andrea; Bacher, Gerald; Koul, Anil; Choidas, Axel

PATENT ASSIGNEE(S): Axxima Pharmaceuticals A.-G., Germany

SOURCE: PCT Int. Appl., 94 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003084947	A1	20031016	WO 2003-EP3697	20030409
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1492783	A1	20050105	EP 2003-720441	20030409
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
US 2004171603	A1	20040902	US 2003-715591	20031118
PRIORITY APPLN. INFO.:				
			EP 2002-7923	A 20020409
			EP 2001-112289	A 20010518
			US 2001-292325P	P 20010522
			US 2001-298902P	P 20010619
			EP 2001-115508	A 20010627
			WO 2002-EP5573	A2 20020521
			WO 2003-EP3697	W 20030409

OTHER SOURCE(S): MARPAT 139:317414

AB The invention describes 4,5,6,7-tetrahydrobenzo[b]thiophene derivs. and pharmaceutically acceptable salts thereof, the use of these derivs. for the prophylaxis and/or treatment of mycobacteria-induced infections and opportunistic infections, as well as compns. containing at least one 4,5,6,7-tetrahydrobenzo[b]thiophene derivative and/or pharmaceutically acceptable salt thereof. Compds. of the invention are used as inhibitors of protein kinases, e.g. Mycobacterium tuberculosis protein kinase G. The invention also discloses the use of a protein serine/threonine kinase for developing methods for detection and determination of such a kinase for recognizing and monitoring diseases and for controlling therapy of diseases.

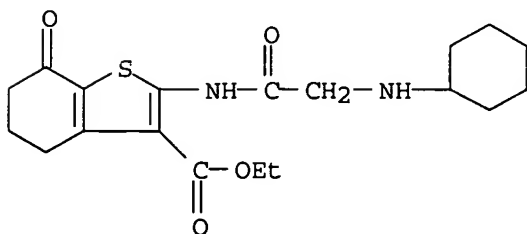
IT 296266-55-2

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(tetrahydrobenzothiothiophene derivs. for treatment of mycobacterial and opportunistic infections, and diagnostic and screening methods)

RN 296266-55-2 HCAPLUS

CN Benzo[b]thiophene-3-carboxylic acid, 2-[[[(cyclohexylamino)acetyl]amino]-4,5,6,7-tetrahydro-7-oxo-, ethyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT:

3

THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 4 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:23438 HCAPLUS

DOCUMENT NUMBER: 138:68713

TITLE: Modulating resistance of tumor and pathogen cells to foreign compounds by manipulation of ATP gradients via regulation of **ABC** transporters and ecto-phosphatases

INVENTOR(S): Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan M.

PATENT ASSIGNEE(S): University of Texas, USA

SOURCE: U.S. Pat. Appl. Publ., 41 pp., Cont.-in-part of U.S. Ser. No. 261,825.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003008369	A1	20030109	US 2002-134019	20020425
US 2002006901	A1	20020117	US 1999-244792	19990205
WO 2003091403	A2	20031106	WO 2003-US12780	20030425
WO 2003091403	A3	20041104		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1999-244792 A2 19990205
US 1999-261825 A2 19990303
US 2002-134019 A1 20020425

AB The present invention relates to methods for modulating the growth of tumor and pathogen cells and the resistance of cells to foreign compds., i.e. drugs, antibiotics, etc. by altering the ATP gradient across biol. membranes. The altering of the ATP gradient across biol. membranes is achieved through the manipulation of ecto-phosphatase (e.g., human apyrase) activity and **ABC** transporter mol. (e.g., Arabidopsis AtPGP-1) activity which may also be useful to confer herbicide resistance to **plants**, confer antibiotic resistance to bacteria, confer drug resistance to yeast cells, or to reduce resistance in cells to facilitate chemotherapeutic treatments, and to reduce resistance in bacteria and yeast. The present invention is also directed to the methods for identifying ecto-phosphatase inhibitors and uses thereof. Nineteen ecto-phosphatase inhibitory mols. are provided which are useful in reversing multi-drug resistance in Arabidopsis and yeast.

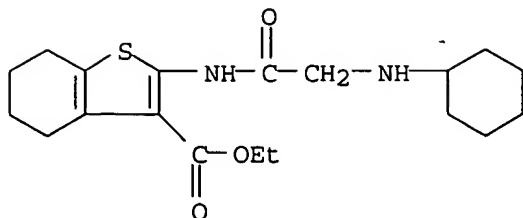
IT 154201-55-5 171248-07-0

RL: AGR (Agricultural use); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(modulating resistance of tumor and pathogen cells to foreign compds. by manipulation of ATP gradients via regulation of **ABC** transporters and ecto-phosphatases)

RN 154201-55-5 HCAPLUS

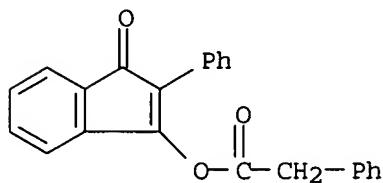
CN Benzo[b]thiophene-3-carboxylic acid, 2-[[[(cyclohexylamino)acetyl]amino]-

4,5,6,7-tetrahydro-, ethyl ester (9CI) (CA INDEX NAME)



RN 171248-07-0 HCAPLUS

CN Benzeneacetic acid, 1-oxo-2-phenyl-1H-inden-3-yl ester (9CI) (CA INDEX NAME)



L38 ANSWER 5 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:833490 HCAPLUS

DOCUMENT NUMBER: 137:306061

TITLE: Pesticidal and herbicidal activity through modulation of animal and **plant** cell membrane transport

INVENTOR(S): Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan M.

PATENT ASSIGNEE(S): Board of Regents, The University of Texas System, USA

SOURCE: U.S. Pat. Appl. Publ., 41 pp., Cont.-in-part of U. S. Ser. No. 244,791.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002160915	A1	20021031	US 2001-793336	20010226
US 6448472	B1	20020910	US 1999-244791	19990205
PRIORITY APPLN. INFO.:			US 1999-244791	A2 19990205
			US 2000-185299P	P 20000228

AB The present invention relates to the modulation of pesticidal and herbicidal activity by treatment of a membrane transport system in a cell. This entails modifying the extra-cellular phosphatases found in the membranes of these cells. By modifying the ATP gradient across the biol. membrane of a target **plant**, bacteria, insect or mammalian cell via inhibiting one or more extra-cellular phosphatases, it is possible to alter the sensitivity to a pesticide or herbicide. The method also comprises inhibiting an **ABC** transporter in the target cell. The method can also be used for identifying chems. with pesticidal activity.

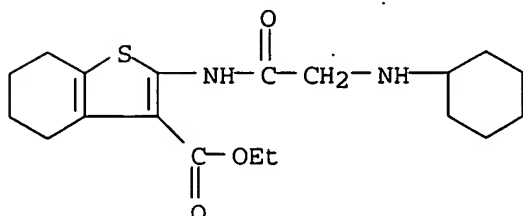
IT 154201-55-5 171248-07-0

RL: AGR (Agricultural use); BUJ (Biological use, unclassified); BIOL

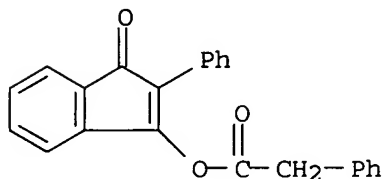
(Biological study); USES (Uses)

(ectophosphatase inhibitor which enhances
pesticidal and herbicidal activity by altering the ATP gradient across
biol. membranes)

RN 154201-55-5 HCAPLUS

CN Benzo[b]thiophene-3-carboxylic acid, 2-[[[(cyclohexylamino)acetyl]amino]-
4,5,6,7-tetrahydro-, ethyl ester (9CI) (CA INDEX NAME)

RN 171248-07-0 HCAPLUS

CN Benzeneacetic acid, 1-oxo-2-phenyl-1H-inden-3-yl ester (9CI) (CA INDEX
NAME)

L38 ANSWER 6 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:185280 HCAPLUS

DOCUMENT NUMBER: 136:244034

TITLE: Method for increasing the effectiveness of
antiinfective agents by inhibiting ecto-phosphatase
and/or ABC transporter activities

INVENTOR(S): Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan M.

PATENT ASSIGNEE(S): Board of Regents, the University of Texas System, USA

SOURCE: PCT Int. Appl., 65 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

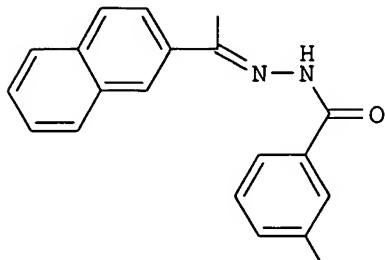
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002020726	A2	20020314	WO 2001-US28242	20010907
WO 2002020726	A3	20020606		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

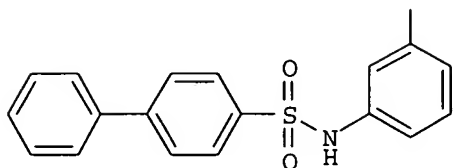
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,

DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
 BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 AU 2001090710 A5 20020322 AU 2001-90710 20010907
 US 2002077365 A1 20020620 US 2001-949268 20010907
 PRIORITY APPLN. INFO.: US 2000-231088P P 20000908
 WO 2001-US28242 W 20010907

GI



I



II

AB The present invention relates to methods for decreasing the resistance of microbial strains to antiinfectives such as antibiotics and antifungals by altering the ATP gradient across biol. membranes. The altering of the ATP gradient across biol. membranes is achieved through the inhibition of ecto-phosphatase activity and/or **ABC** transporter mol. activity which may be useful to reduce resistance in bacteria and yeast to aid in the treatment of certain infections and disease and to lower the concentration of

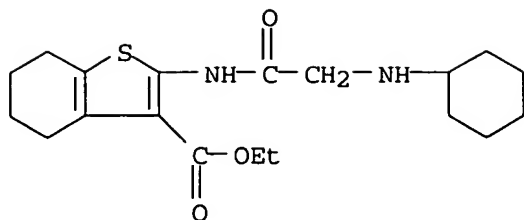
antiinfectives necessary to inhibit the growth of microbial strains. Apyrase inhibitor I increased the growth inhibitory effect of the fungicide chlorothalonil by over 50%. Surflan was an equally effective weed killer against Arabidopsis thaliana at a five-fold less concentration in the presence of II.

IT 154201-55-5 171248-07-0

RL: BSU (Biological study, unclassified); CST (Combinatorial study, unclassified); BIOL (Biological study); CMBI (Combinatorial study) (as apyrase inhibitor; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or **ABC** transporter activities)

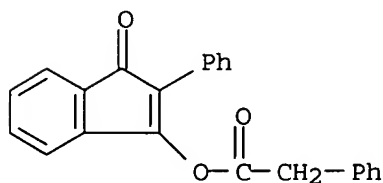
RN 154201-55-5 HCAPLUS

CN Benzo[b]thiophene-3-carboxylic acid, 2-[[[(cyclohexylamino)acetyl]amino]-4,5,6,7-tetrahydro-, ethyl ester (9CI) (CA INDEX NAME)



RN 171248-07-0 HCAPLUS

CN Benzeneacetic acid, 1-oxo-2-phenyl-1H-inden-3-yl ester (9CI) (CA INDEX NAME)



L38 ANSWER 7 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:676991 HCAPLUS

DOCUMENT NUMBER: 135:222868

TITLE: Pesticide adjuvant activity through modulation of animal and **plant** cell membrane transport

INVENTOR(S): Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan M.

PATENT ASSIGNEE(S): Board of Regents of the University of Texas System, USA

SOURCE: PCT Int. Appl., 76 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001066792	A1	20010913	WO 2001-US7423	20010307
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 2002103082	A1	20020801	US 2001-800327	20010306
CA 2373424	AA	20010913	CA 2001-2373424	20010307
PRIORITY APPLN. INFO.:				
			US 2000-187819P	P 20000308
			US 2001-800327	A 20010306
			WO 2001-US7423	W 20010307

AB The invention relates to the modulation of pesticidal and herbicidal activity by treatment of a membrane transport system in a cell. This entails modifying the extracellular phosphatases found in the membranes of

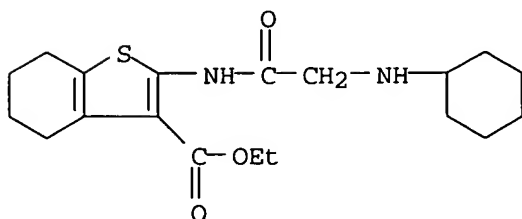
these cells. By modifying the ATP gradient across the biol. membrane of a target **plant**, bacteria, insect or mammalian cell via inhibiting one or more extracellular phosphatases, it is possible to alter the sensitivity to a pesticide or herbicide. In preferred embodiments, the chemical moieties of the invention act as adjuvants to enhance pesticidal activity.

IT 154201-55-5 171248-07-0

RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
(pesticide adjuvant acting by inhibition of extracellular phosphatases in membranes)

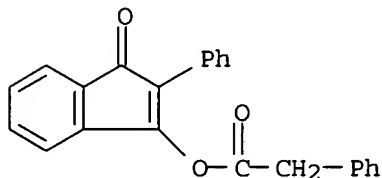
RN 154201-55-5 HCAPLUS

CN Benzo[b]thiophene-3-carboxylic acid, 2-[[[(cyclohexylamino)acetyl]amino]-4,5,6,7-tetrahydro-, ethyl ester (9CI) (CA INDEX NAME)



RN 171248-07-0 HCAPLUS

CN Benzeneacetic acid, 1-oxo-2-phenyl-1H-inden-3-yl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 8 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:661570 HCAPLUS

DOCUMENT NUMBER: 135:206922

TITLE: Pesticidal and herbicidal activity through modulation of animal and **plant** cell membrane transport

INVENTOR(S): Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan M.

PATENT ASSIGNEE(S): Board of Regents, the University of Texas System, USA

SOURCE: PCT Int. Appl., 74 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001064859	A1	20010907	WO 2001-US6503	20010227
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				

CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
 HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
 LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
 SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU,
 ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
 BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

US 2000-185299P

P 20000228

AB The invention relates to the modulation of pesticidal and herbicidal activity by treatment of a membrane transport system in a cell. This entails modifying the extra-cellular phosphatases found in the membranes of these cells. By modifying the ATP gradient across the biol. membrane of a target **plant**, bacteria, insect or mammalian cell via inhibiting one or more extracellular phosphatases, it is possible to alter the sensitivity to a pesticide or herbicide. The method also comprises inhibiting an **ABC** transporter in the target cell. The method can also be used for identifying chems. with pesticidal activity.

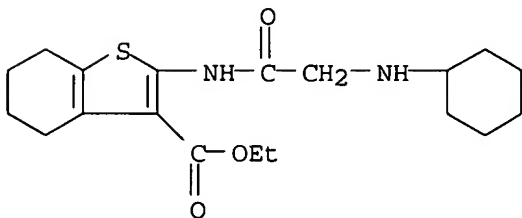
IT 154201-55-5 171248-07-0

RL: AGR (Agricultural use); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(**ectophosphatase inhibitor** which enhances
 pesticidal and herbicidal activity by altering the ATP gradient across
 biol. membranes)

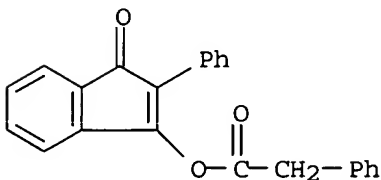
RN 154201-55-5 HCAPLUS

CN Benzo[b]thiophene-3-carboxylic acid, 2-[[[(cyclohexylamino)acetyl]amino]-
 4,5,6,7-tetrahydro-, ethyl ester (9CI) (CA INDEX NAME)



RN 171248-07-0 HCAPLUS

CN Benzeneacetic acid, 1-oxo-2-phenyl-1H-inden-3-yl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT:

2

THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 9 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:628251 HCAPLUS

DOCUMENT NUMBER: 133:219782

TITLE: Genetic and epigenetic manipulation of **ABC**

transporters and ecto-phosphatases for modulating drug resistance and methods for detection of ecto-phosphatase inhibitors

INVENTOR(S): Thomas, Collin E.; Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan M.; Hurley, Laurence

PATENT ASSIGNEE(S): University of Texas, USA

SOURCE: PCT Int. Appl., 85 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000052144	A1	20000908	WO 2000-US5315	20000228
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1185623	A1	20020313	EP 2000-913685	20000228
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 2002173031	A1	20021121	US 2002-47251	20020114
PRIORITY APPLN. INFO.: US 1999-261825 A 19990303				
WO 2000-US5315 W 20000228				

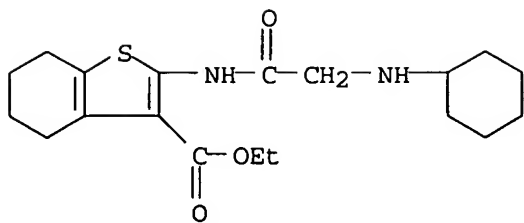
AB The present invention relates to methods for modulating the resistance of cells to foreign compds., i.e. drugs, antibiotics, etc. by altering the ATP gradient across biol. membranes. Altering the ATP gradient across biol. membranes is achieved through the manipulation of ecto-phosphatase activity and **ABC** transporter mol. activity. The above method may be useful to confer herbicide resistance to **plants**, antibiotic resistance to bacteria, and drug resistance to yeast cells, or to reduce resistance in cells, bacteria, and yeast in order to facilitate chemotherapeutic treatments. The present invention is also directed to the methods for identifying ecto-phosphatase inhibitors and uses thereof. Thus, Arabidopsis thaliana has been shown to possess an ecto-apyrase and this ecto-apyrase and PGP-1 (an MDR-like protein) to have a role in MDR. Addnl., the extracellular ATP pool was shown to be critical for MDR in yeast. Screening of a combinatorial library of small mols. has resulted in identification of apyrase inhibitors.

IT 154201-55-5 171248-07-0

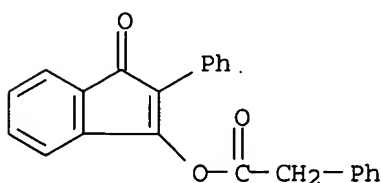
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(genetic and epigenetic manipulation of **ABC** transporters and ecto-phosphatases for modulating drug resistance and methods for detection of ecto-phosphatase inhibitors)

RN 154201-55-5 HCAPLUS

CN Benzo[b]thiophene-3-carboxylic acid, 2-[[[(cyclohexylamino)acetyl]amino]-4,5,6,7-tetrahydro-, ethyl ester (9CI) (CA INDEX NAME)



RN 171248-07-0 HCAPLUS
 CN Benzeneacetic acid, 1-oxo-2-phenyl-1H-inden-3-yl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L38 ANSWER 10 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:838034 HCAPLUS

DOCUMENT NUMBER: 124:8370

TITLE: Synthesis of O-acyl derivatives of
 2-aryl-1H-indene-1,3(2H)-diones and
 2-aryl-2,3-dihydrophenalene-1,3-diones

AUTHOR(S): Stoyanov, N.; Nedev, H.; Minchev, S.

CORPORATE SOURCE: Department of Chemistry, Biotechnology Institute,
 Razgrad, 7200, Bulg.

SOURCE: Dokladi na Bulgarskata Akademiya na Naukite (1994),
 47(9), 41-3

CODEN: DBANEH; ISSN: 0861-1459

PUBLISHER: Izdatelstvo na Bulgarskata Akademiya na Naukite

DOCUMENT TYPE: Journal

LANGUAGE: English

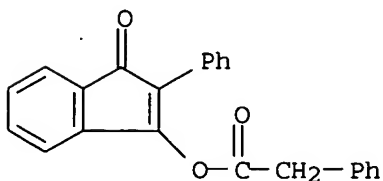
AB The preparation of the title compds. are discussed.

IT 171248-07-0P 171248-10-5P

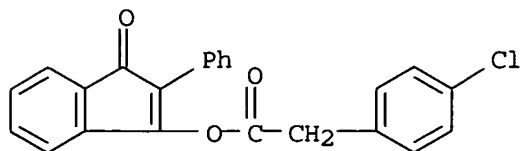
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation of O-acyl derivs. of 2-aryl-1H-indene-1,3(2H)-diones and
 2-aryl-2,3-dihydrophenalene-1,3-diones)

RN 171248-07-0 HCAPLUS

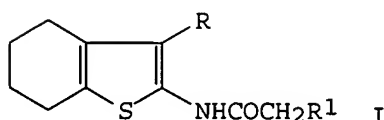
CN Benzeneacetic acid, 1-oxo-2-phenyl-1H-inden-3-yl ester (9CI) (CA INDEX NAME)



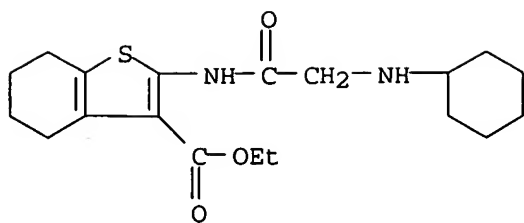
RN 171248-10-5 HCAPLUS
 CN Benzeneacetic acid, 4-chloro-, 1-oxo-2-phenyl-1H-inden-3-yl ester (9CI)
 (CA INDEX NAME)



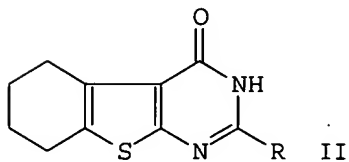
L38 ANSWER 11 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1994:244500 HCAPLUS
 DOCUMENT NUMBER: 120:244500
 TITLE: Synthesis and local anesthetic activity of some
 2-aminoacetyl-amino-3-carbethoxy/anilido-4,5,6,7-
 tetrahydrobenzo[b]thiophenes
 AUTHOR(S): Gadad, A. K.; Kumar, Hemant; Shishoo, C. J.; Khazi, I.
 M.; Mahajanshetti, C. S.
 CORPORATE SOURCE: Dep. Pharm. Chem., Coll. Pharm., Belgaum, 590 010,
 India
 SOURCE: Indian Journal of Chemistry, Section B: Organic
 Chemistry Including Medicinal Chemistry (1994),
 33B(3), 298-301
 CODEN: IJSBDB; ISSN: 0376-4699
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



AB Twenty new 2-substituted aminoacetyl-amino-3-carbethoxy/anilido-4,5,6,7-
 tetrahydrobenzo[b]thiophenes (I, R = CO₂Et, CONHPh, CONHC₆H₄Me-o; R₁ =
 Me₂N, Et₂N, piperidino, morpholino, piperazino, 1-pyrrolidinyl,
 cyclohexylamino) were synthesized with a view to studying the effect of
 structural modification of carticaine on the local anesthetic activity and
 were evaluated by Sollman's method as well as Bulbring and Wajda method
 using lignocaine hydrochloride as a standard All the tested compds. show
 moderate to good activity.
 IT **154201-55-5P**
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological
 study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use);
 BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation and local anesthetic activity of)
 RN 154201-55-5 HCAPLUS
 CN Benzo[b]thiophene-3-carboxylic acid, 2-[[[(cyclohexylamino)acetyl]amino]-
 4,5,6,7-tetrahydro-, ethyl ester (9CI) (CA INDEX NAME)

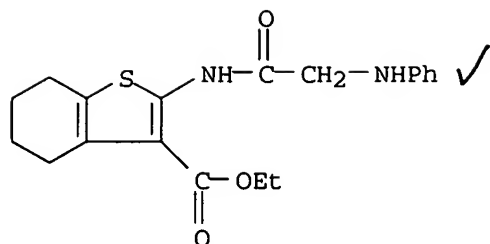


L38 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1992:448485 HCAPLUS
 DOCUMENT NUMBER: 117:48485
 TITLE: Novel synthesis of thieno[2,3-d]pyrimidines
 AUTHOR(S): Shaban, M. A.; Mohamed, M. S.; Kamel, M. M.;
 El-Zanfally, S. H.
 CORPORATE SOURCE: Fac. Pharm., Cairo Univ., Cairo, Egypt
 SOURCE: Bulletin of the Faculty of Pharmacy (Cairo University)
 (1990), 28(1), 17-19
 CODEN: BFPHA8; ISSN: 0575-1373
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 117:48485
 GI



AB The reaction of 2-amino-4,5,6,7-tetrahydrobenzo[b]thiophene-3-carboxamide (I) with 1,2-dielectrophilic reagents has been investigated. Fusion of I and benzoin gave the thienopyrimidine derivative II (R = Ph). A mechanism for its formation was postulated, and confirmed by reacting I with benzaldehyde. The least reaction is the basis of a novel synthesis for thienopyrimidines.

IT **142354-81-2P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 142354-81-2 HCAPLUS
 CN Benzo[b]thiophene-3-carboxylic acid, 4,5,6,7-tetrahydro-2-
 [(phenylamino)acetyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)



L38 ANSWER 13 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1979:121287 HCAPLUS

DOCUMENT NUMBER: 90:121287

TITLE: Esters of 3-hydroxyindone compounds as herbicides and miticides

INVENTOR(S): Durden, John A., Jr.; Sousa, Anthony A.; Stephen, John F.

PATENT ASSIGNEE(S): Union Carbide Corp., USA

SOURCE: U.S., 18 pp.

CODEN: USXXAM

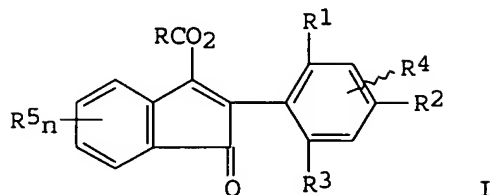
DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4104043 ✓	A	19780801	US 1972-314370	19721212
IN 138958	A	19760417	IN 1973-CA392	19730221
CA 1030976	A1	19780509	CA 1973-185629	19731113
DE 2361084	A1	19740620	DE 1973-2361084	19731207
DE 2361084	C2	19841025		
AU 7363395	A1	19750612	AU 1973-63395	19731210
BE 808486	A1	19740611	BE 1973-138738	19731211
FR 2209742	A1	19740705	FR 1973-44143	19731211
JP 49094828	A2	19740909	JP 1973-137454	19731211
JP 59020642	B4	19840515		
BR 7309691	A0	19741022	BR 1973-9691	19731211
ZA 7309408	A	19741030	ZA 1973-9408	19731211
GB 1403477	A	19750820	GB 1973-57322	19731211
ES 421344	A1	19760416	ES 1973-421344	19731211
CH 590611	A	19770815	CH 1973-17328	19731211
IL 43801	A1	19780615	IL 1973-43801	19731211
US 4091006	A	19780523	US 1975-618837	19751001
PRIORITY APPLN. INFO.:			US 1972-314370	A 19721212
GI				

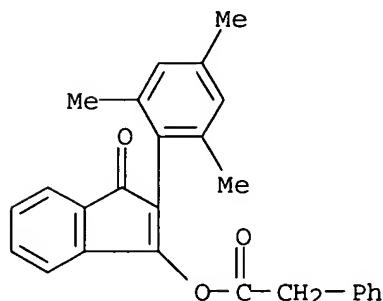


AB One hundred thirty title esters I (R = H, halo or an organic moiety; H, halo, Me, Et, MeO, EtO, CCl₃, CF₃, CCl₂F, CClF₂; R₁ = H, halo, alkyl, alkoxy, NO₂, CCl₃, CF₃, amido; R₃ = halo, Me, Et, MeO, EtO; R₄ = H, alkyl, haloalkyl, alkoxy, amido, halo; R₅ = H, halo, alkyl, alkoxy, CF₃, CCl₃, CCl₂F, CClF₂, amido; n = 1-4; R₁R₄, R₂R₄ = CH:CHCH:CH) were prepared and each was evaluated for its herbicidal and/or miticidal activity. Tabulation of compds. with only 1 variable permitted evaluation of the effect of the structure on the biol. activity. Thus, treatment of 2-(2,6-dichlorophenyl)-1,3-indandione with BzCl in pyridine gave 33% I (R = Ph, R₁ = R₃ = Cl, R₂ = R₄ = R₅ = H), which gave 100% kill of adult mites and mite ova in standard tests and had a herbicide rating of 31/40.

IT **53083-25-3P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and acaricidal and herbicidal activity of)

RN 53083-25-3 HCAPLUS

CN Benzeneacetic acid, 1-oxo-2-(2,4,6-trimethylphenyl)-1H-inden-3-yl ester
 (9CI) (CA INDEX NAME)



L38 ANSWER 14 OF 14 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1974:477734 HCAPLUS

DOCUMENT NUMBER: 81:77734

TITLE: Substituted 3-hydroxyindones

INVENTOR(S): Durden, John A., Jr.; Sousa, Anthony A.; Stephen, John F.

PATENT ASSIGNEE(S): Union Carbide Corp.

SOURCE: Ger. Offen., 87 pp.
 CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2361084	A1	19740620	DE 1973-2361084	19731207
DE 2361084	C2	19841025		
US 4104043	A	19780801	US 1972-314370	19721212
PRIORITY APPLN. INFO.:			US 1972-314370	A 19721212

GI For diagram(s), see printed CA Issue.

AB 2-Phenyl-3-hydroxyindenone esters I (R = e.g., Me, Ph, Me₂NH, Me₃C; R₁, R₂, and R₃ = e.g., H, Me, Cl, NO₂, MeO), useful as acaricides and pre-emergent herbicides, were prepared by the reaction of a

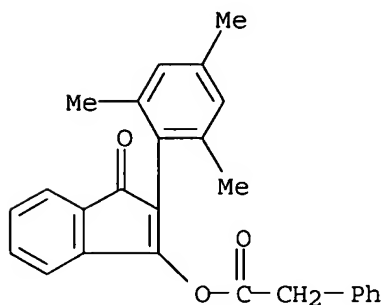
2-phenyl-1,3-indandione with an acid chloride or anhydride. Thus, 2-(2,4,6-trimethylphenyl)-1,3-indandione reacted with Ac₂O to give I (R = R₁ = R₂ = R₃ = Me). About 115 I were prepared

IT 53083-25-3 53083-48-0

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study) (acaricidal and herbicidal activity of)

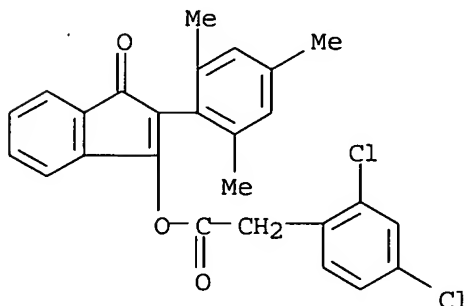
RN 53083-25-3 HCAPLUS

CN Benzeneacetic acid, 1-oxo-2-(2,4,6-trimethylphenyl)-1H-inden-3-yl ester (9CI) (CA INDEX NAME)

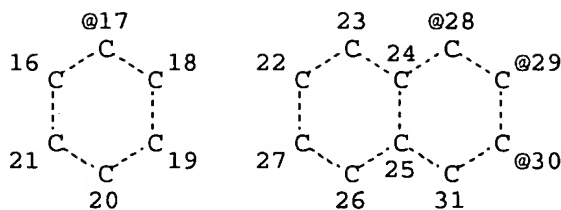


RN 53083-48-0 HCAPLUS

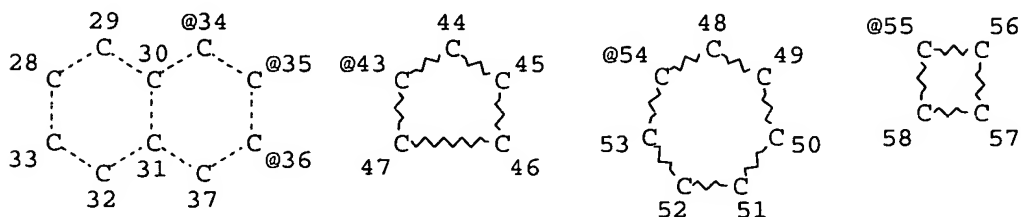
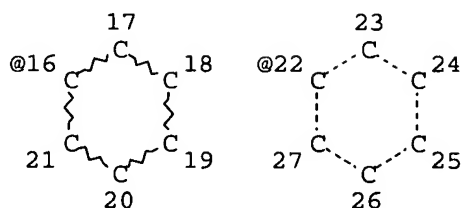
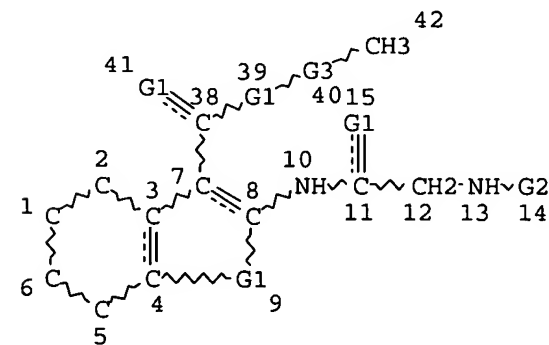
CN Benzeneacetic acid, 2,4-dichloro-, 1-oxo-2-(2,4,6-trimethylphenyl)-1H-inden-3-yl ester (9CI) (CA INDEX NAME)



The diagram shows a benzene ring with atoms numbered 1 through 15. The ring consists of six carbon atoms (C) connected by solid and dashed lines. The numbering is as follows: 1 is the top-left carbon, 2 is the top-right carbon, 3 is the middle-right carbon, 4 is the bottom-right carbon, 5 is the bottom-left carbon, and 6 is the middle-left carbon. Substituents are attached to the ring: a G2 group is attached to atom 2 (labeled 32 above it), a G1 group is attached to atom 3 (labeled 12 above it), a G1 group is attached to atom 4 (labeled 11 to its right), and a G2 group is attached to atom 5 (labeled 10 below it). The G1 and G2 groups are connected to the ring by wavy lines. The atoms are also labeled with numbers 7, 8, 9, 10, 11, 12, 13, 14, 15, and 16, which are likely part of a larger molecular structure or a specific nomenclature system.



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L20          4 SEA FILE=REGISTRY SSS FUL L18
L21         10 SEA FILE=HCAPLUS ABB=ON  L20
L30          STR
```



Page 19

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 58

STEREO ATTRIBUTES: NONE

L32 128 SEA FILE=REGISTRY SSS FUL L30
L33 11 SEA FILE=HCAPLUS ABB=ON L32
L34 14 SEA FILE=HCAPLUS ABB=ON L21 OR L33
L35 1 SEA FILE=REGISTRY ABB=ON PHOSPHATASE/CN
L36 7 SEA FILE=HCAPLUS ABB=ON L34 AND ((L35 OR ?PHOSPHATAS?) (W) ?INHI
BIT? OR (?DRUG? (W) ?RESIST?) (4A) (?DECREAS? OR ?INHIBIT? OR
?LESSEN? OR ?PREVENT? OR ?CONTROL?) OR ?PEAS? OR ?CARROT? OR
?FLOWER? OR ?RICE? OR ?WHEAT? OR ?PLANT?)
L37 6 SEA FILE=HCAPLUS ABB=ON L34 AND ABC
L38 14 SEA FILE=HCAPLUS ABB=ON L34 OR L36 OR L37

=> d ibib abs hitstr l12 1-1

L12 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:628251 HCAPLUS
DOCUMENT NUMBER: 133:219782
TITLE: Genetic and epigenetic manipulation of ABC
transporters and ecto-phosphatases for modulating drug
resistance and methods for detection of
ecto-phosphatase inhibitors
INVENTOR(S): Thomas, Collin E.; Windsor, J. Brian
; Roux, Stan J.; Lloyd, Alan M.;
Hurley, Laurence
PATENT ASSIGNEE(S): University of Texas, USA
SOURCE: PCT Int. Appl., 85 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000052144	A1	20000908	WO 2000-US5315	20000228
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
EP 1185623	A1	20020313	EP 2000-913685	20000228
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
US 2002173031	A1	20021121	US 2002-47251	20020114
PRIORITY APPLN. INFO.:			US 1999-261825	A 19990303
			WO 2000-US5315	W 20000228

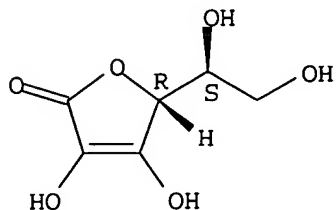
AB The present invention relates to methods for modulating the resistance of cells to foreign compds., i.e. drugs, antibiotics, etc. by altering the ATP gradient across biol. membranes. Altering the ATP gradient across biol. membranes is achieved through the manipulation of ecto-phosphatase activity and ABC transporter mol. activity. The above method may be useful to confer herbicide resistance to plants, antibiotic resistance to bacteria, and drug resistance to yeast cells, or to reduce resistance in cells, bacteria, and yeast in order to facilitate chemotherapeutic treatments. The present invention is also directed to the methods for identifying ecto-phosphatase inhibitors and uses thereof. Thus, Arabidopsis thaliana has been shown to possess an ecto-apyrase and this ecto-apyrase and PGP-1 (an MDR-like protein) to have a role in MDR. Addnl., the extracellular ATP pool was shown to be critical for MDR in yeast. Screening of a combinatorial library of small mols. has resulted in identification of apyrase inhibitors.

IT 50-81-7, Ascorbic acid, uses 11098-84-3, Ammonium molybdate

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(genetic and epigenetic manipulation of ABC transporters and
ecto-phosphatases for modulating drug resistance and methods for
detection of ecto-phosphatase inhibitors)

RN 50-81-7 HCAPLUS
 CN L-Ascorbic acid (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 11098-84-3 HCAPLUS
 CN Ammonium molybdenum oxide (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

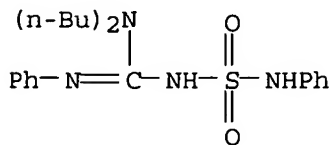
IT 9013-05-2, Phosphatase 41481-51-0 139963-64-7
 154201-55-5 168832-50-6 171248-07-0
 291536-79-3 291536-80-6 291536-81-7
 291536-82-8 291536-83-9 291536-84-0
 291536-85-1 291536-86-2 291536-87-3
 291536-88-4 291536-89-5 291536-90-8
 291536-91-9 291536-92-0

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
 (genetic and epigenetic manipulation of ABC transporters and ecto-phosphatases for modulating drug resistance and methods for detection of ecto-phosphatase inhibitors)

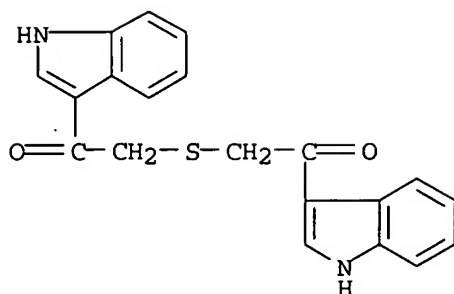
RN 9013-05-2 HCAPLUS
 CN Phosphatase (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

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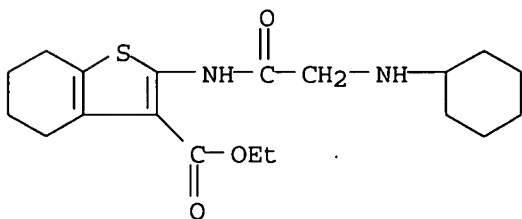


RN 139963-64-7 HCAPLUS
 CN Ethanone, 2,2'-thiobis[1-(1H-indol-3-yl)- (9CI) (CA INDEX NAME)



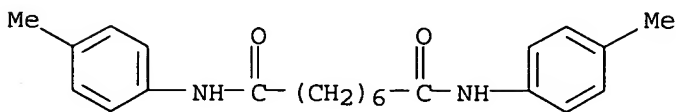
RN 154201-55-5 HCAPLUS

CN Benzo[b]thiophene-3-carboxylic acid, 2-[[[(cyclohexylamino)acetyl]amino]-4,5,6,7-tetrahydro-, ethyl ester (9CI) (CA INDEX NAME)



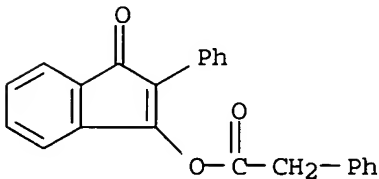
RN 168832-50-6 HCAPLUS

CN Octanediamide, N,N'-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



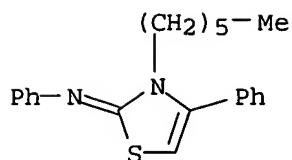
RN 171248-07-0 HCAPLUS

CN Benzeneacetic acid, 1-oxo-2-phenyl-1H-inden-3-yl ester (9CI) (CA INDEX NAME)



RN 291536-79-3 HCAPLUS

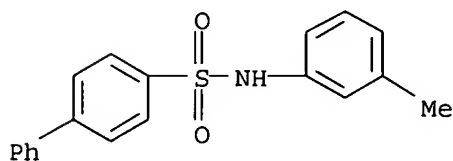
CN Benzenamine, N-(3-hexyl-4-phenyl-2(3H)-thiazolylidene)-, monohydrobromide (9CI) (CA INDEX NAME)



● HBr

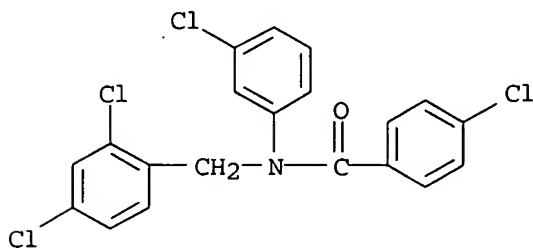
RN 291536-80-6 HCAPLUS

CN [1,1'-Biphenyl]-4-sulfonamide, N-(3-methylphenyl)- (9CI) (CA INDEX NAME)



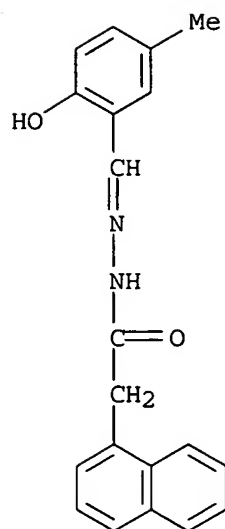
RN 291536-81-7 HCAPLUS

CN Benzamide, 4-chloro-N-(3-chlorophenyl)-N-[(2,4-dichlorophenyl)methyl]- (9CI) (CA INDEX NAME)



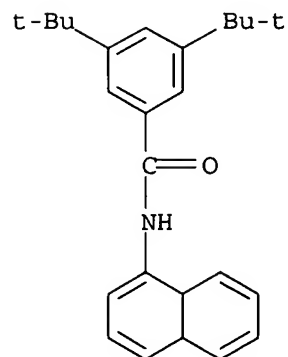
RN 291536-82-8 HCAPLUS

CN 1-Naphthaleneacetic acid, [(2-hydroxy-5-methylphenyl)methylene]hydrazide (9CI) (CA INDEX NAME)



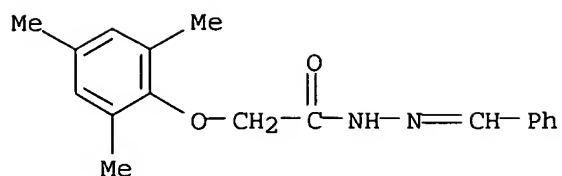
RN 291536-83-9 HCAPLUS

CN Benzamide, N-(4a,8a-dihydro-1-naphthalenyl)-3,5-bis(1,1-dimethylethyl)-
(9CI) (CA INDEX NAME)



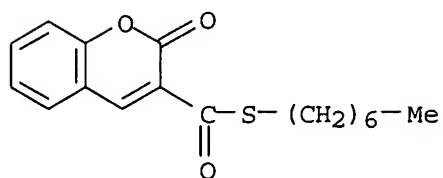
RN 291536-84-0 HCAPLUS

CN 1-Naphthaleneacetic acid, [(4-bromophenyl)methylene]hydrazide (9CI) (CA
INDEX NAME)



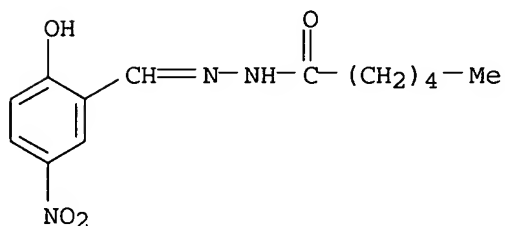
RN 291536-88-4 HCAPLUS

CN 2H-1-Benzopyran-3-carbothioic acid, 2-oxo-, S-heptyl ester (9CI) (CA INDEX NAME)



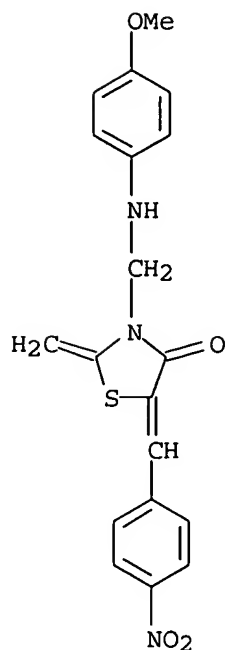
RN 291536-89-5 HCAPLUS

CN Hexanoic acid, [(2-hydroxy-5-nitrophenyl)methylene]hydrazide (9CI) (CA INDEX NAME)



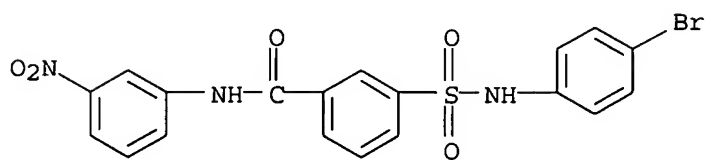
RN 291536-90-8 HCAPLUS

CN 4-Thiazolidinone, 3-[[[(4-methoxyphenyl)amino]methyl]-2-methylene-5-[(4-nitrophenyl)methylene]]- (9CI) (CA INDEX NAME)



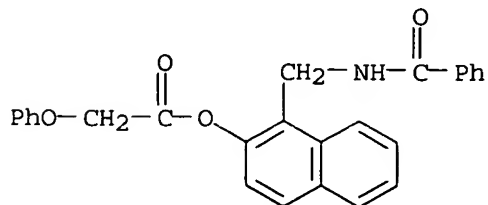
RN 291536-91-9 HCAPLUS

CN Benzamide, 3-[[[4-bromophenyl]amino]sulfonyl]-N-(3-nitrophenyl)- (9CI)
(CA INDEX NAME)



RN 291536-92-0 HCAPLUS

CN Acetic acid, phenoxy-, 1-[(benzoylamino)methyl]-2-naphthalenyl ester (9CI)
(CA INDEX NAME)



IT 56-65-5, ATP, biological studies

RL: BOC (Biological occurrence); BSU (Biological study, unclassified);

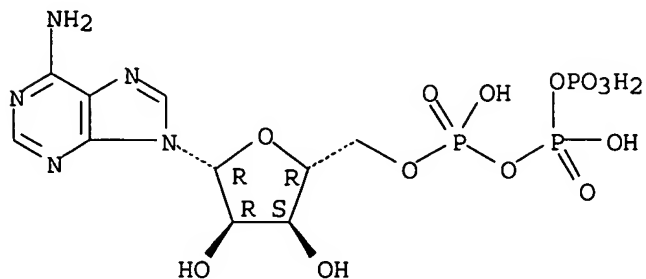
BIOL (Biological study); OCCU (Occurrence)

(gradient of; genetic and epigenetic manipulation of ABC transporters and ecto-phosphatases for modulating drug resistance and methods for detection of ecto-phosphatase inhibitors)

RN 56-65-5 HCAPLUS

CN Adenosine 5'-(tetrahydrogen triphosphate) (8CI, 9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT:

8

THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT



STIC Search Report

Biotech-Chem Library

STIC Database Tracking Number: 151080

TO: Susan Hanley
Location: 3d70 / 3e71
Tuesday, April 26, 2005
Art Unit: 1651
Phone: 571-272-2508
Serial Number: 10 / 047251

From: Jan Delaval
Location: Biotech-Chem Library
Remsen 1a51
Phone: 571-272-22504
jan.delaval@uspto.gov

Search Notes

10/047, 251

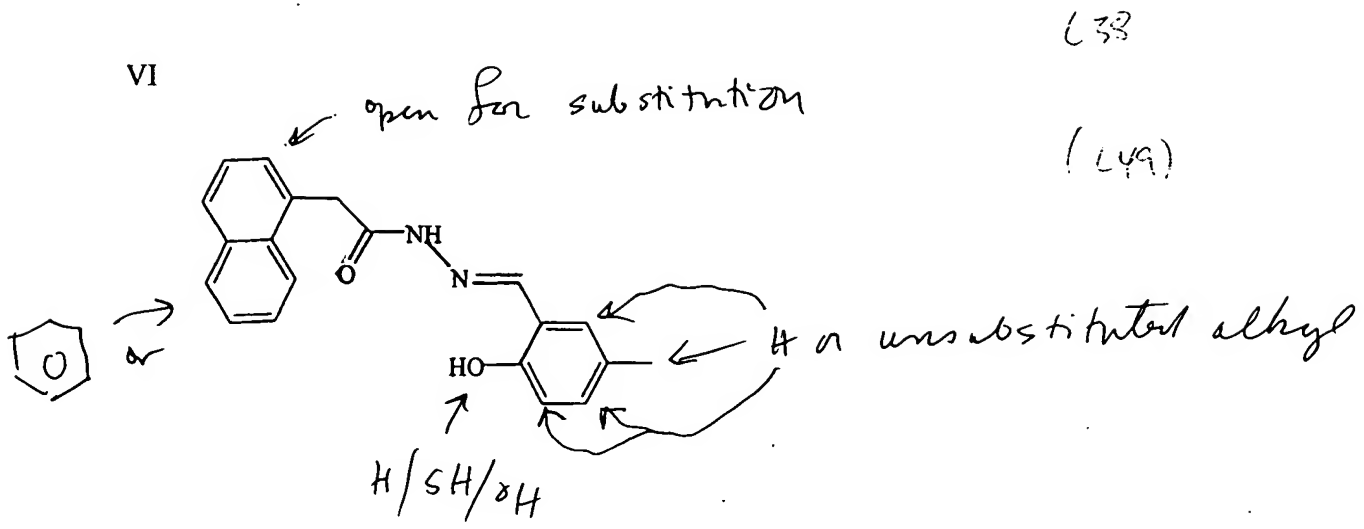
Search Request:

1. Please do a structure search for each of the attached compounds with the modifications that I have specified. Where possible, I have indicated a structural feature common to all of the attached compounds so that you may be able to consolidate the compounds into the fewest searches possible.
2. Please see if the compounds from your search results have been used in the following methods:
 - a. Does the compound inhibit any phosphatase?
 - b. Does the compound decrease drug resistance in plants or mammals?
 - c. Have the compounds ever been administered (i.e. sprayed, applied, etc.) to a plant such as peas, carrots, flowers, rice, wheat, any plant that you can think of.
 - d. Have any of the compounds been used to inhibit (down-regulate, antagonist, etc) an ABC transporter (also known as an ABC-binding cassette) in a cell?

For the plants, the plant can be in a cell culture.

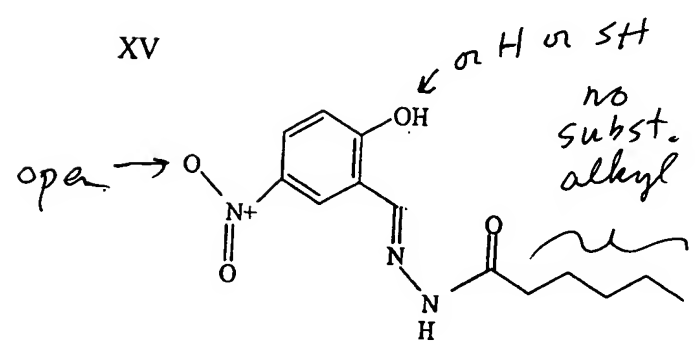
Thanks. Please call me if you have any questions 2-2508.

Susan



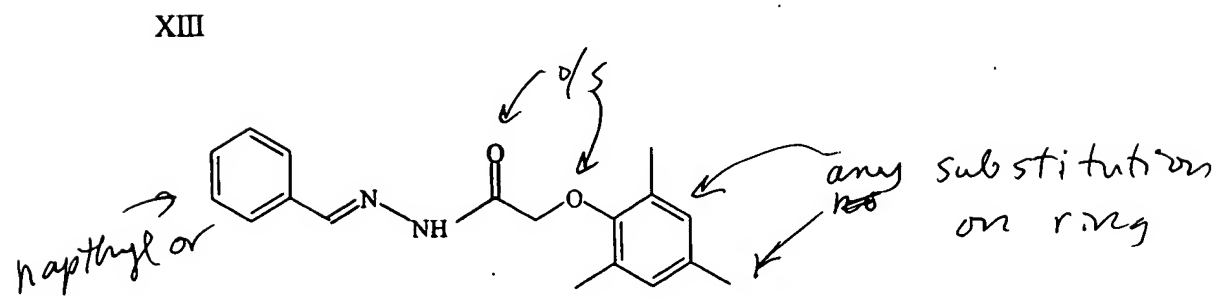
(33)

(L49)



L45

(L46)



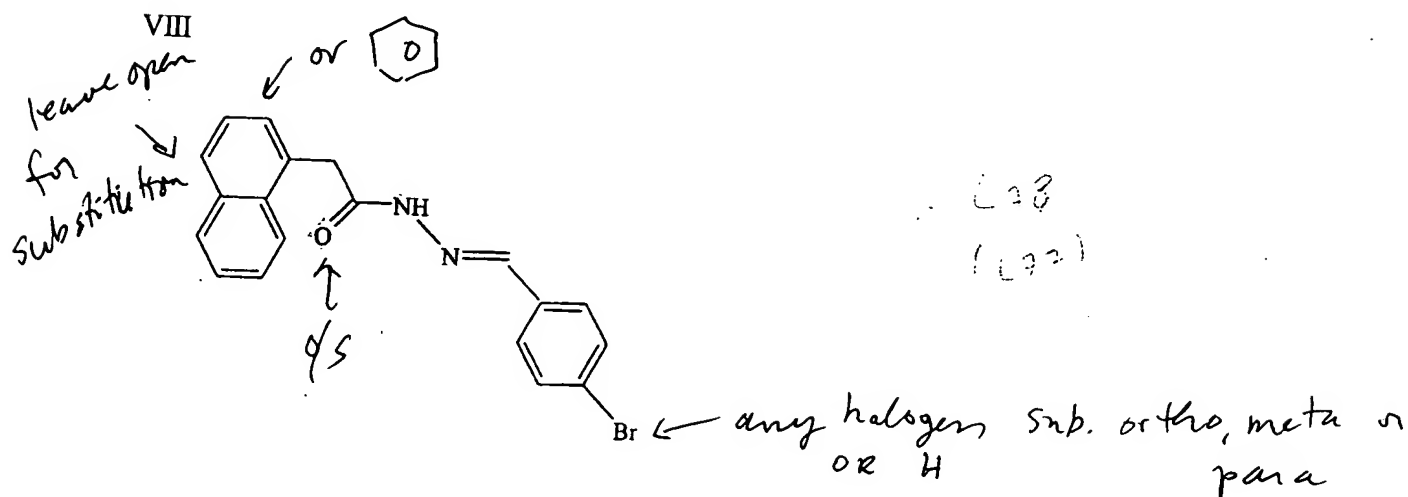
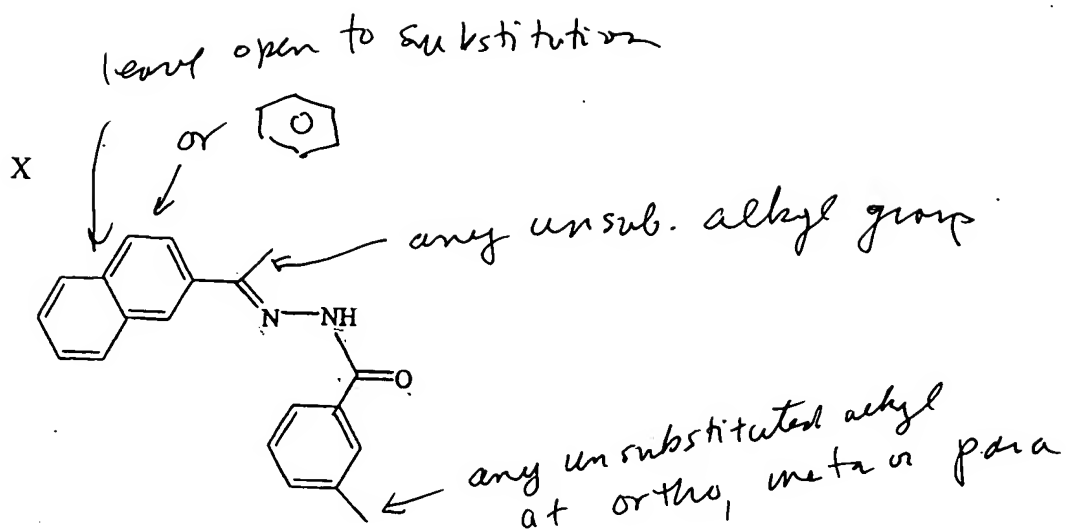
L42

L60

L61

(67)

(120)



(28)

(122)

=> fil reg

FILE 'REGISTRY' ENTERED AT 08:49:31 ON 26 APR 2005

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2005 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 25 APR 2005 HIGHEST RN 849177-50-0

DICTIONARY FILE UPDATES: 25 APR 2005 HIGHEST RN 849177-50-0

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

```
*****
*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,   *
* effective March 20, 2005. A new display format, IDERL, is now    *
* available and contains the CA role and document type information. *
*
*****
```

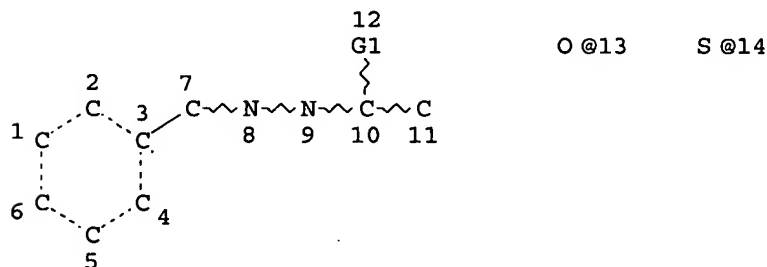
Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d sta que 138

L21 STR



VAR G1=13/14

NODE ATTRIBUTES:

NSPEC IS RC AT 11

CONNECT IS E2 RC AT 8

CONNECT IS E2 RC AT 9

CONNECT IS E1 RC AT 13

CONNECT IS E1 RC AT 14

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

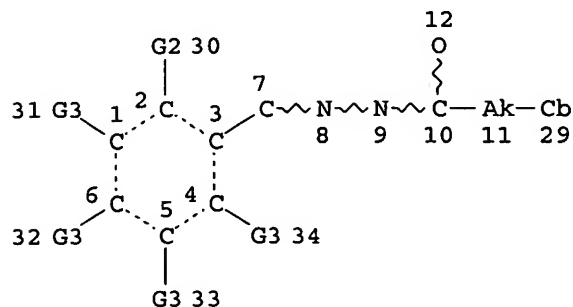
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE

L23 241180 SEA FILE=REGISTRY SSS FUL L21

L24 STR



VAR G2=H/S/O

VAR G3=H/AK

NODE ATTRIBUTES:

CONNECT IS M1 RC AT 29

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

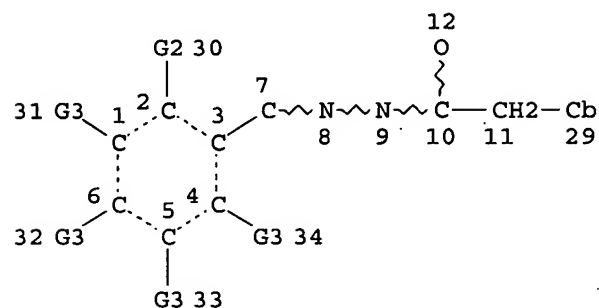
GRAPH ATTRIBUTES:

RSPEC 1

NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE

L26 STR



VAR G2=H/S/O

VAR G3=H/AK

NODE ATTRIBUTES:

CONNECT IS M1 RC AT 29

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC 1

NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE

L28 229 SEA FILE=REGISTRY SUB=L23 CSS FUL L24

L29 130 SEA FILE=REGISTRY SUB=L28 SSS FUL L26

L30 26 SEA FILE=REGISTRY ABB=ON PLU=ON L29 AND C6-C6/ES

L31 24 SEA FILE=REGISTRY ABB=ON PLU=ON L30 NOT 2 NAPHTHALENE?

L32 104 SEA FILE=REGISTRY ABB=ON PLU=ON L29 NOT L30

L33 10 SEA FILE=REGISTRY ABB=ON PLU=ON L32 AND NR>=3

L34 6 SEA FILE=REGISTRY ABB=ON PLU=ON L33 NOT (C24H26N4O2 OR C19H24N2O2 OR C25H28N2O4)

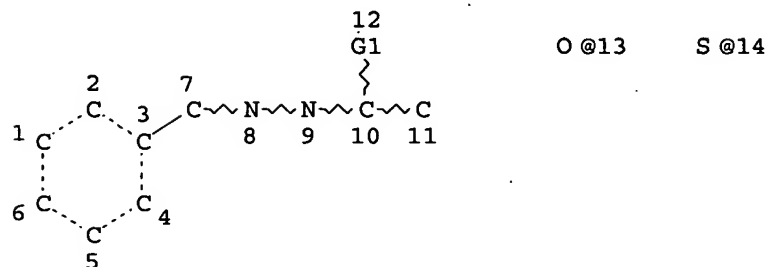
L35 94 SEA FILE=REGISTRY ABB=ON PLU=ON L32 NOT L33

Compound VI

L36 5 SEA FILE=REGISTRY ABB=ON PLU=ON L35 AND (C19H24N2O3 OR
C15H16N2O OR C15H17N3O OR C20H26N2O3 OR C18H22N2O3)
L37 89 SEA FILE=REGISTRY ABB=ON PLU=ON L35 NOT L36
L38 119 SEA FILE=REGISTRY ABB=ON PLU=ON (L31 OR L34 OR L37)

=> d sta que 145

L21 STR



VAR G1=13/14

NODE ATTRIBUTES:

NSPEC IS RC AT 11
CONNECT IS E2 RC AT 8
CONNECT IS E2 RC AT 9
CONNECT IS E1 RC AT 13
CONNECT IS E1 RC AT 14
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

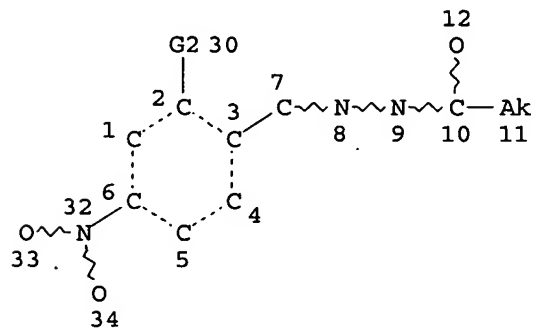
GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE

L23 241180 SEA FILE=REGISTRY SSS FUL L21

L39 STR



VAR G2=H/S/O

NODE ATTRIBUTES:

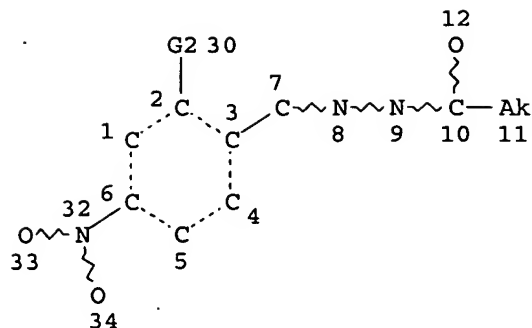
CONNECT IS M1 RC AT 33
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC 3
NUMBER OF NODES IS 16

STEREO ATTRIBUTES: NONE

L42 STR



VAR G2=H/S/O

NODE ATTRIBUTES:

CONNECT IS E1 RC AT 11

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC 3

NUMBER OF NODES IS 16

STEREO ATTRIBUTES: NONE

L44 75 SEA FILE=REGISTRY SUB=L23 SSS FUL L42

L45 17 SEA FILE=REGISTRY SUB=L44 CSS FUL L39

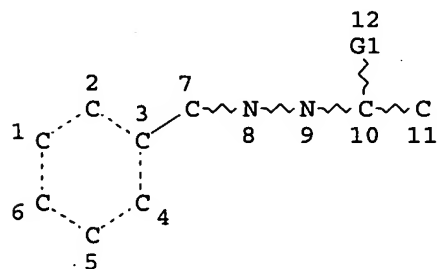
100.0% PROCESSED 75 ITERATIONS

17 ANSWERS

SEARCH TIME: 00.00.01

=> d sta que 157

L21 STR



O@13

S@14

VAR G1=13/14

NODE ATTRIBUTES:

NSPEC IS RC AT 11

CONNECT IS E2 RC AT 8

CONNECT IS E2 RC AT 9

CONNECT IS E1 RC AT 13

CONNECT IS E1 RC AT 14

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

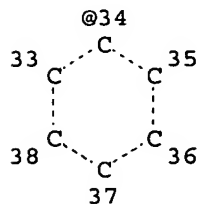
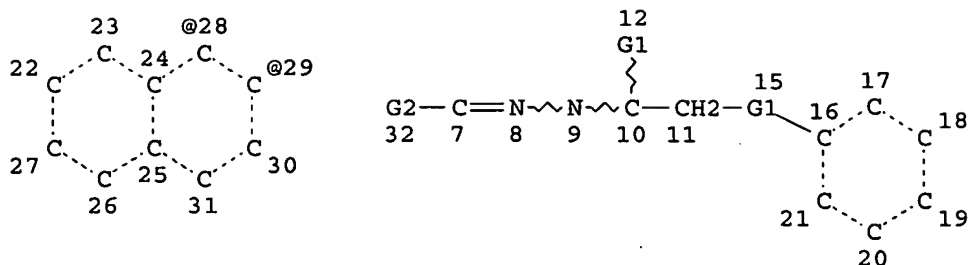
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE

L23 241180 SEA FILE=REGISTRY SSS FUL L21

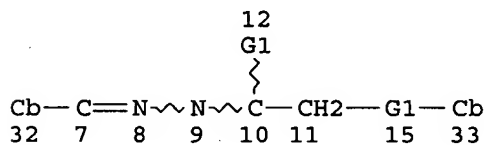
L52 STR



VAR G1=O/S
 VAR G2=28/29/34
 NODE ATTRIBUTES:
 CONNECT IS E2 RC AT 7
 CONNECT IS E2 RC AT 8
 CONNECT IS E2 RC AT 9
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RSPEC 22, 16 33
 NUMBER OF NODES IS 30

STEREO ATTRIBUTES: NONE
 L54 16576 SEA FILE=REGISTRY SUB=L23 SSS FUL L52
 L55 STR



VAR G1=O/S
 NODE ATTRIBUTES:
 CONNECT IS M1 RC AT 33
 DEFAULT MLEVEL IS ATOM
 GGCAT IS UNS AT 32
 GGCAT IS MCY UNS AT 33
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 9

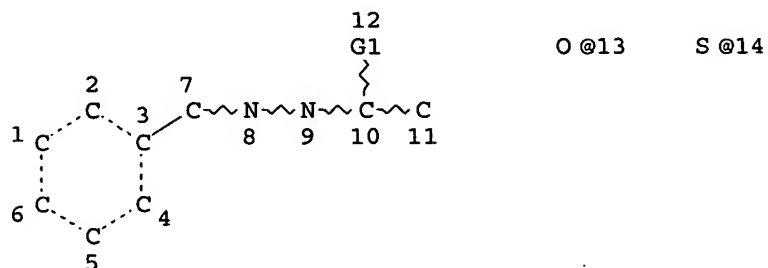
STEREO ATTRIBUTES: NONE
 L57 328 SEA FILE=REGISTRY SUB=L54 CSS FUL L55

100.0% PROCESSED 16576 ITERATIONS
 SEARCH TIME: 00.00.02

328 ANSWERS

=> d sta que 169

L21 STR



VAR G1=13/14

NODE ATTRIBUTES:

```

NSPEC   IS RC   AT   11
CONNECT IS E2   RC AT   8
CONNECT IS E2   RC AT   9
CONNECT IS E1   RC AT  13
CONNECT IS E1   RC AT  14
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

```

GRAPH ATTRIBUTES:

```

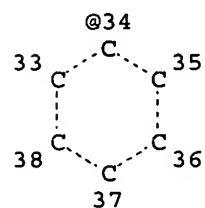
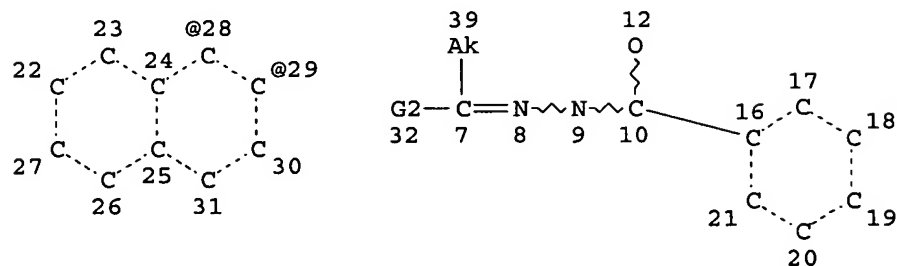
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 14

```

STEREO ATTRIBUTES: NONE

L23 241180 SEA FILE=REGISTRY SSS FUL L21

L62 STR



VAR G2=28/29/34

NODE ATTRIBUTES:

```

CONNECT IS E2   RC AT   8
CONNECT IS E2   RC AT   9
CONNECT IS E1   RC AT  12
CONNECT IS E1   RC AT  39
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

```


GRAPH ATTRIBUTES:

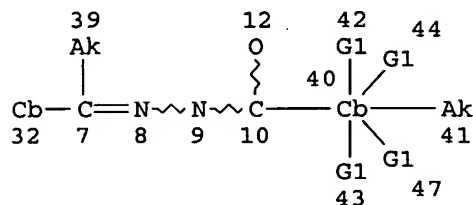
RSPEC 22 33 16

NUMBER OF NODES IS 29

STEREO ATTRIBUTES: NONE

L64 9945 SEA FILE=REGISTRY SUB=L23 SSS FUL L62

L65 STR



VAR G1=H/AK

NODE ATTRIBUTES:

CONNECT IS M1 RC AT 32

DEFAULT MLEVEL IS ATOM

GGCAT IS UNS AT 32

GGCAT IS MCY UNS AT 40

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

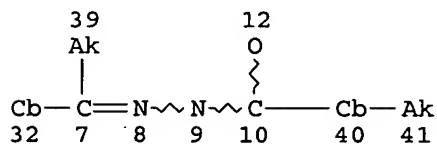
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE

L67 494 SEA FILE=REGISTRY SUB=L64 CSS FUL L65

L68 STR



NODE ATTRIBUTES:

CONNECT IS M1 RC AT 32

DEFAULT MLEVEL IS ATOM

GGCAT IS UNS AT 32

GGCAT IS MCY UNS AT 40

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 9

STEREO ATTRIBUTES: NONE

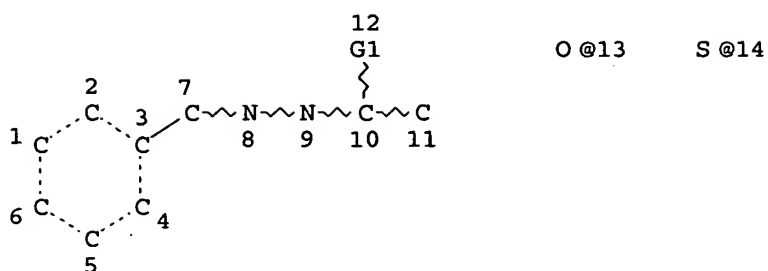
L69 378 SEA FILE=REGISTRY SUB=L67 CSS FUL L68

100.0% PROCESSED 494 ITERATIONS
 SEARCH TIME: 00.00.01

378 ANSWERS

=> d sta que 178

L21 STR



VAR G1=13/14

NODE ATTRIBUTES:

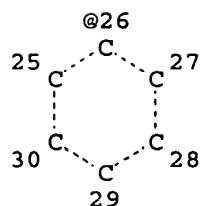
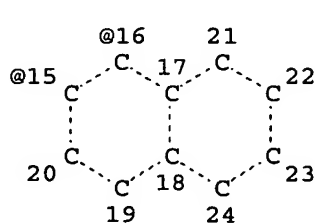
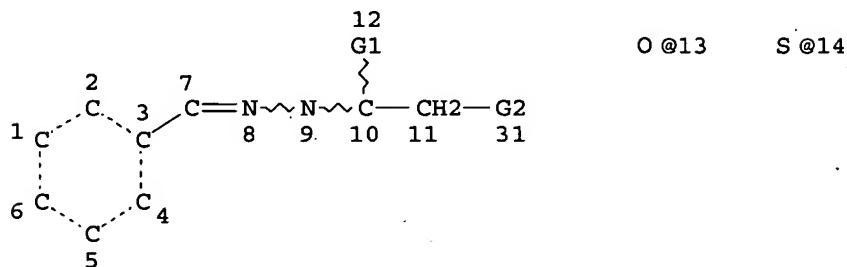
NSPEC IS RC AT 11
CONNECT IS E2 RC AT 8
CONNECT IS E2 RC AT 9
CONNECT IS E1 RC AT 13
CONNECT IS E1 RC AT 14
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE

L23 241180 SEA FILE=REGISTRY SSS FUL L21
L71 STR



VAR G1=13/14

VAR G2=16/15/26

NODE ATTRIBUTES:

CONNECT IS E2 RC AT 8
CONNECT IS E2 RC AT 9
CONNECT IS E1 RC AT 13
CONNECT IS E1 RC AT 14
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC 1 15 25

NUMBER OF NODES IS 31

STEREO ATTRIBUTES: NONE

L73 3116 SEA FILE=REGISTRY SUB=L23 SSS FUL L71

L74 STR

12

G1

}

G2-Cb-C=N~N~C-CH2-Cb

33 32 7 8 9 10 11 31

VAR G1=O/S

VAR G2=H/X

NODE ATTRIBUTES:

CONNECT IS M1 RC AT 31

DEFAULT MLEVEL IS ATOM

GGCAT IS UNS AT 31

GGCAT IS MCY UNS AT 32

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 9

STEREO ATTRIBUTES: NONE

L76 127 SEA FILE=REGISTRY SUB=L73 CSS FUL L74

L77 1 SEA FILE=REGISTRY ABB=ON PLU=ON L76 AND 2 NAPHTH?

L78 126 SEA FILE=REGISTRY ABB=ON PLU=ON L76 NOT L77

=> d his

(FILE 'HOME' ENTERED AT 06:44:31 ON 26 APR 2005)

DEL HIS

FILE 'HCAPLUS' ENTERED AT 06:46:29 ON 26 APR 2005

L1 6 S (US20020173031 OR US6448472)/PN OR (US2002-047251# OR WO2000-

L2 4 S L1 NOT (KUSU ? OR BRUNELLE ?)/AU

SEL RN

FILE 'REGISTRY' ENTERED AT 06:48:54 ON 26 APR 2005

L3 51 S E1-E51

L4 20 S L3 AND SQL/FA

L5 6 S L3 AND UNSPECIFIED NOT L4

L6 25 S L3 NOT L4,L5

L7 6 S L6 AND (C13H17N3O4 OR C18H20N2O2 OR C20H18N2O OR C19H15BRN2O

FILE 'HCAPLUS' ENTERED AT 06:51:54 ON 26 APR 2005

E THOMAS C/AU

L8 287 S E3,E18,E19

E THOMAS COLLIN/AU

L9 8 S E3-E5

E THOMAS COLIN/AU

L10 8 S E3

E WINDSOR J/AU

L11 13 S E3,E5,E6,E9

L12 1 S E13

E ROUX S/AU

L13 171 S E3,E5,E19-E22

E LLOYD A/AU

L14 33 S E3,E16,E17

L15 46 S E33,E36,E37

E HURLEY L/AU
L16 258 S E3-E9,E13-E17
FILE 'REGISTRY' ENTERED AT 06:54:10 ON 26 APR 2005
L17 STR
L18 50 S L17
L19 STR L17
L20 50 S L19
L21 STR L19
L22 50 S L21
L23 241180 S L21 FUL
L24 STR
L25 2 S L24 CSS SAM SUB=L23
L26 STR L24
L27 0 S L26 CSS SAM SUB=L23
L28 229 S L24 CSS FUL SUB=L23
SAV TEMP L28 HANLEY047A/A
L29 130 S L26 FUL SUB=L28
SAV L29 HANLEY047B/A
L30 26 S L29 AND C6-C6/ES
L31 24 S L30 NOT 2 NAPHTHALENE?
L32 104 S L29 NOT L30
L33 10 S L32 AND NR>=3
L34 6 S L33 NOT (C24H26N4O2 OR C19H24N2O2 OR C25H28N2O4)
L35 94 S L32 NOT L33
L36 5 S L35 AND (C19H24N2O3 OR C15H16N2O OR C15H17N3O OR C20H26N2O3 O
L37 89 S L35 NOT L36
SAV L38 HANLEY047C/A
DEL HANLEY047C/A
L38 119 S L31,L34,L37
SAV L38 HANLEY047C/A
L39 STR L24
L40 0 S L39 CSS SAM SUB=L23
L41 50 S L39 SAM SUB=L23
L42 STR L39
L43 4 S L42 SAM SUB=L23
L44 75 S L42 FUL SUB=L23
SAV L44 HANLEY047D/A
L45 17 S L39 CSS FUL SUB=L44
SAV L45 HANLEY047E/A
L46 58 S L44 NOT L45
L47 11 S L46 AND (C16H23N3O3 OR C20H31N3O3 OR C13H17N3O3 OR C14H19N3O3
L48 10 S L47 NOT DINITRO
L49 2 S L30 NOT L31
L50 STR L21
L51 50 S L50 SAM SUB=L23
L52 STR L50
L53 50 S L52 SAM SUB=L23
L54 16576 S L52 FUL SUB=L23
SAV TEMP L54 HANLEY047F/A
L55 STR L52
L56 11 S L55 CSS SAM SUB=L54
L57 328 S L55 CSS FUL SUB=L54
SAV TEMP L57 HANLEY047G/A
L58 STR L55
L59 0 S L58 CSS SAM SUB=L57
L60 3 S L58 CSS FUL SUB=L57
SAV L60 TEMP HANLEY047H/A
L61 325 S L57 NOT L60
L62 STR L50
L63 11 S L62 SAM SUB=L23
L64 9945 S L62 FUL SUB=L23
SAV TEMP L64 HANLEY047I/A

L65 STR L62
 L66 32 S L65 CSS SAM SUB=L64
 L67 494 S L65 CSS FUL SUB=L64
 SAV TEMP L67 HANLEY047J/A
 L68 STR L65
 L69 378 S L68 CSS FUL SUB=L67
 SAV L69 HANLEY047K/A TEMP
 L70 116 S L67 NOT L69
 L71 STR L21
 L72 50 S L71 SAM SUB=L23
 L73 3116 S L71 FUL SUB=L23
 SAV TEMP L73 HANLEY047L/A
 L74 STR L71
 L75 5 S L74 CSS SAM SUB=L73
 L76 127 S L74 CSS FUL SUB=L73
 SAV L76 TEMP HANLEY047M/A
 L77 1 S L76 AND 2 NAPHTH?
 L78 126 S L76 NOT L77
 L79 20779 S ?PHOSPHATASE?/CNS
 DEL HANLEY047B/A
 SAV TEMP HANLEY047B/A L29
 DEL HANLEY047C/A
 SAV TEMP HANLEY047C/A L37
 DEL HANLEY047D/A
 SAV TEMP HANLEY047D/A L44
 DEL HANLEY047E/A
 SAV TEMP HANLEY047E/A L45

FILE 'HCAOLD' ENTERED AT 07:58:27 ON 26 APR 2005

L80 21 S L38 OR L45 OR L60 OR L61 OR L69 OR L78

FILE 'REGISTRY' ENTERED AT 08:00:18 ON 26 APR 2005

L81 1074 S L38,L49,L45,L48,L57,L60,L61,L69,L70,L78,L77
 L82 STR L21
 L83 1073 S L82 FUL SUB=L81
 L84 1 S L81 NOT L83
 SAV L83 TEMP HANLEY047N/A

FILE 'HCAOLD' ENTERED AT 08:02:41 ON 26 APR 2005

L85 20 S L83
 SEL AN
 EDIT /AN /OREF E1-E20 /AN /OREF

FILE 'HCAPLUS' ENTERED AT 08:03:31 ON 26 APR 2005

L86 39 S E1-E20
 SEL DN AN 2 4 6 10 13 15 17 19 21 23 25 27 29 31 33 35 37 39
 L87 21 S L86 NOT E21-E74
 L88 123 S L83
 L89 14 S L87 AND L88
 L90 0 S L89 AND (PLANT? OR AGR?)/SC,SX,CW,CT,BI
 L91 0 S L89 AND ?PHOSPHATASE?
 L92 196912 S L79
 L93 0 S L87 AND L92
 L94 0 S L87,L89 AND (DRUG? OR PHARMACEUT? OR PHARMACOL? OR DISEAS?)
 L95 21 S L87,L89
 L96 8 S L2,L8-L16 AND L88
 L97 101 S L88 AND (PY<=1999 OR PRY<=1999 OR AY<=1999)
 L98 7 S L83 (L) AGR/RL
 L99 25 S L83 (L) (THU OR DMA OR PAC OR PKT OR BAC OR BUU OR DGN)/RL
 L100 27 S L83 (L) BIOL+NT/RL
 L101 38 S L83 AND (AGR? OR PHARMACEUT? OR PHARMACOL? OR PATHOL? OR IMMU
 L102 8 S L88 AND (L92 OR ?PHOSPHATASE?)
 L103 29 S L97 AND L98-L102

L104 34 S L96,L103
 L105 12 S L88 AND (PLANT? OR AGR?)/SC,SX,CW,CT,BI
 L106 8 S L105 AND L97
 L107 35 S L104,L106
 E DRUG RESISTANCE/CT
 L108 25966 S E3-E7
 L109 70909 S E3+OLD,NT,PFT,RT
 L110 4 S L88 AND L108,L109
 L111 2 S L110 AND L97
 L112 35 S L107,L111
 E TRANSPORT PROTEIN/CT
 L113 2466 S E63-E71
 L114 407311 S E59+OLD,NT,PFT,RT
 L115 6 S L88 AND L113,L114
 L116 3 S L115 AND L97
 L117 35 S L112,L116
 L118 6 S L88 AND ABC?
 L119 6 S L118 AND TRANSPORT?(S) PROTEIN
 L120 3 S L118,L119 AND L97
 L121 35 S L117,L120
 L122 10 S L97 AND P/DT
 L123 10 S L88 AND (?HERBIC? OR ?INSECT? OR WEED?)
 L124 6 S L123 AND L97
 L125 42 S L121,L122,L124 AND L1,L2,L8-L16,L86-L124
 SEL DN AN 19 28
 L126 40 S L125 NOT E1-E6
 L127 66 S L97 NOT L126
 SEL DN AN 9 16 18 20 22 23 26 27 29 37 39 40 43 49-53 64
 L128 19 S L127 AND E7-E63
 L129 5 S L88 AND ENZYM?/SC,SX,CW,CT,BI
 L130 3 S L97 AND L129
 L131 61 S L125,L130,L128 AND L1,L2,L8-L16,L86-L130
 L132 53 S L131 NOT L96
 SEL DN AN 12 22 26
 L133 50 S L132 NOT E64-E72
 L134 8 S L131 NOT L132
 L135 58 S L133,L134
 L136 2 S L97 AND (BIOCHEM?(L)METHOD?)/SC,SX
 L137 23 S L97 AND (BIOCHEM? OR GENETIC?)/SC,SX
 L138 61 S L135-L137
 L139 11 S L138 AND (AGR? OR PLANT?)/SC,SX,CW,CT,OBI,BI
 L140 7 S L138 AND L92
 L141 8 S L138 AND ?PHOSPHATASE?
 L142 5 S L138 AND ENZYM?/SC,SX,CW,CT,BI,OBI
 L143 8 S L138 AND L8-L16,L1,L2
 L144 14 S L139-L143
 L145 10 S L138 AND (?PARASIT? OR ?INSECT? OR ?HERBIC? OR WEED?)
 L146 16 S L144,L145
 L147 45 S L138 NOT L146
 L148 45 S L97 NOT L146,L147
 SAV TEMP L87 HANLEY0470/A
 SEL HIT RN L146
 SEL HIT RN L147

FILE 'REGISTRY' ENTERED AT 08:48:07 ON 26 APR 2005

L149 24 S E73-E96
 L150 61 S E97-E157
 L151 6 S L149 AND L79
 L152 18 S L149 NOT L151
 L153 57 S L150 NOT L149

FILE 'REGISTRY' ENTERED AT 08:49:31 ON 26 APR 2005

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L151 ANSWER 1 OF 6 REGISTRY COPYRIGHT 2005 ACS on STN

RN 37289-25-1 REGISTRY

ED Entered STN: 16 Nov 1984

CN **Pyrophosphatase, adenosine triphosphate (9CI)** (CA INDEX NAME)

OTHER NAMES:

CN **Adenosine triphosphate pyrophosphatase**

CN **ATP pyrophosphatase**

CN ATP pyrophosphohydrolase

CN Autotaxin

CN Autotaxin-t

CN E.C. 3.6.1.8

CN **Nucleotide pyrophosphatase**

MF Unspecified

CI MAN

LC STN Files: AGRICOLA, ANABSTR, BIOSIS, BIOTECHNO, CA, CABA, CAPLUS,
EMBASE, TOXCENTER, USPATFULL

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

138 REFERENCES IN FILE CA (1907 TO DATE)

138 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 142:295965

REFERENCE 2: 142:277305

REFERENCE 3: 142:173772

REFERENCE 4: 142:130156

REFERENCE 5: 142:53621

REFERENCE 6: 141:377983

REFERENCE 7: 141:363596

REFERENCE 8: 141:363589

REFERENCE 9: 141:347542

REFERENCE 10: 141:328975

L151 ANSWER 2 OF 6 REGISTRY COPYRIGHT 2005 ACS on STN

RN 9032-64-8 REGISTRY

ED Entered STN: 16 Nov 1984

CN **Pyrophosphatase, nucleotide (9CI)** (CA INDEX NAME)

OTHER NAMES:

CN Autotaxin

CN Autotaxin-t

CN E.C. 3.6.1.9

CN **Nucleotide pyrophosphatase**

CN Nucleotide pyrophosphohydrolase

CN **Nucleotide-sugar pyrophosphatase**

MF Unspecified

CI MAN

LC STN Files: AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA,
CAPLUS, CHEMCATS, EMBASE, NAPRALERT, TOXCENTER, USPATFULL

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

357 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

357 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 142:295965
REFERENCE 2: 142:277305
REFERENCE 3: 142:233710
REFERENCE 4: 142:173772
REFERENCE 5: 142:149383
REFERENCE 6: 142:130156
REFERENCE 7: 142:72870
REFERENCE 8: 142:53621
REFERENCE 9: 142:726
REFERENCE 10: 141:377983

L151 ANSWER 3 OF 6 REGISTRY COPYRIGHT 2005 ACS on STN

RN 9013-05-2 REGISTRY

ED Entered STN: 16 Nov 1984

CN **Phosphatase (9CI)** (CA INDEX NAME)

OTHER NAMES:

CN 4-Methylumbelliferyl phosphatase

CN Alkyl phosphomonoesterase

CN Naphthol-AS-B1-phosphohydrolase

CN Naphthol-AS-Bi-phosphohydrolase

CN Phosphoesterase

CN Phosphohydrolase

CN Phosphomonoesterase

CN Phosphoric acid esterase

DR 9013-13-2

MF Unspecified

CI MAN

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO,
CA, CAPLUS, CASREACT, CBNB, CEN, CHEMLIST, CIN, CSCHM, CSNB, EMBASE,
IFICDB, IFIPAT, IFIUDB, MEDLINE, NAPRALERT, NIOSHTIC, PIRA, PROMT,
TOXCENTER, USPAT2, USPATFULL

Other Sources: EINECS**

(**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

14279 REFERENCES IN FILE CA (1907 TO DATE)

64 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

14286 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 142:341013
REFERENCE 2: 142:331855
REFERENCE 3: 142:312728
REFERENCE 4: 142:311131
REFERENCE 5: 142:310912
REFERENCE 6: 142:309917
REFERENCE 7: 142:309857

REFERENCE 8: 142:294490

REFERENCE 9: 142:292732

REFERENCE 10: 142:292520

L151 ANSWER 4 OF 6 REGISTRY COPYRIGHT 2005 ACS on STN

RN 9001-78-9 REGISTRY

ED Entered STN: 16 Nov 1984

CN Phosphatase, alkaline (9CI) (CA INDEX NAME)

OTHER NAMES:

CN AIP

CN Alkaline phenyl phosphatase

CN alkaline phosphatase

CN Alkaline phosphatase

CN Alkaline phosphohydrolase

CN Alkaline phosphomonoesterase

CN E.C. 3.1.3.1

CN Ostase

MF Unspecified

CI MAN

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO,
CA, CABA, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST,
CIN, CSCHEM, CSNB, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE,
MSDS-OHS, NAPRALERT, NIOSHTIC, PIRA, PROMT, TOXCENTER, ULIDAT, USPAT2,
USPATFULL

Other Sources: EINECS**, TSCA**

(**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

35047 REFERENCES IN FILE CA (1907 TO DATE)

1203 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

35090 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 142:341820

REFERENCE 2: 142:341812

REFERENCE 3: 142:341797

REFERENCE 4: 142:341791

REFERENCE 5: 142:341749

REFERENCE 6: 142:341738

REFERENCE 7: 142:341727

REFERENCE 8: 142:335628

REFERENCE 9: 142:335553

REFERENCE 10: 142:335530

L151 ANSWER 5 OF 6 REGISTRY COPYRIGHT 2005 ACS on STN

RN 9001-77-8 REGISTRY

ED Entered STN: 16 Nov 1984

CN Phosphatase, acid (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Acid monophosphatase

CN **Acid phosphatase**
CN Acid phosphohydrolase
CN Acid phosphomonoester hydrolase
CN Acid phosphomonoesterase
CN E.C. 3.1.3.2
CN Finase AP
CN Sumizyme PM-L
CN **Tartaric acid-resistant phosphatase**
CN **Tartrate-resistant acid phosphatase**
CN **Tartrate-resistant phosphatase**
CN Transferrins, uteroferrins
CN **TRAP phosphatase**
CN Uteroferrin
CN Uterotransferrins, complexes
MF Unspecified
CI MAN
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO,
CA, CABA, CAPLUS, CASREACT, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN,
CSCHEM, CSNB, DDFU, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE,
NAPRALERT, NIOSHTIC, PIRA, PROMT, TOXCENTER, ULIDAT, USPAT2, USPATFULL
Other Sources: EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

19874 REFERENCES IN FILE CA (1907 TO DATE)
143 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
19888 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 142:341788
REFERENCE 2: 142:335035
REFERENCE 3: 142:334951
REFERENCE 4: 142:334567
REFERENCE 5: 142:333439
REFERENCE 6: 142:333345
REFERENCE 7: 142:332993
REFERENCE 8: 142:331698
REFERENCE 9: 142:330615
REFERENCE 10: 142:330222

L151 ANSWER 6 OF 6 REGISTRY COPYRIGHT 2005 ACS on STN

RN 9000-83-3 REGISTRY

ED Entered STN: 16 Nov 1984

CN **Phosphatase, adenosine tri- (9CI)** (CA INDEX NAME)

OTHER NAMES:

CN **Adenosine 5'-triphosphatase**

CN **Adenosine triphosphatase**

CN ATP hydrolase

CN ATP phosphohydrolase

CN ATPase

CN Complex V (mitochondrial electron transport)

CN E.C. 3.6.1.3

CN Uncoating ATPase
CN Vacuolar ATPase
DR 9013-41-6, 9016-15-3, 9036-48-0
MF Unspecified
CI MAN
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO,
CA, CABA, CAPLUS, CASREACT, CEN, CHEMCATS, CHEMLIST, CIN, EMBASE,
IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS, NAPRALERT, NIOSHTIC, PROMT,
TOXCENTER, USPAT2, USPATFULL
Other Sources: TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

64313 REFERENCES IN FILE CA (1907 TO DATE)
249 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
64366 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 142:341831
REFERENCE 2: 142:336518
REFERENCE 3: 142:336517
REFERENCE 4: 142:335218
REFERENCE 5: 142:334076
REFERENCE 6: 142:333605
REFERENCE 7: 142:333377
REFERENCE 8: 142:333286
REFERENCE 9: 142:333259
REFERENCE 10: 142:333243

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 08:50:35 ON 26 APR 2005
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FILE COVERS 1907 - 26 Apr 2005 VOL 142 ISS 18
FILE LAST UPDATED: 25 Apr 2005 (20050425/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

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L146 ANSWER 1 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2005:141200 HCAPLUS
 DN 142:254568
 ED Entered STN: 18 Feb 2005
 TI Methods and compositions for increasing the efficacy of biologically-active ingredients such as antitumor agents
 IN Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan M.; Thomas, Collin E.
 PA Board of Regents, the University of Texas System, USA
 SO PCT Int. Appl., 243 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C12N
 CC 1-6 (Pharmacology)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005014777	A2	20050217	WO 2003-US32667	20031016
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW:				
	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRAI	US 2002-418803P	P	20021016		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2005014777	ICM	C12N

AB The invention provides methods and compns. for modulating the sensitivity of cells to cytotoxic compds. and other active agents. In accordance with the invention, compns. are provided comprising combinations of **ectophosphatase** inhibitors and active agents. Active agents include antibiotics, fungicides, **herbicides**, **insecticides**, chemotherapeutic agents, and **plant growth** regulators. By increasing the efficacy of active agents, the invention allows use of compns. with lowered concns. of active ingredients.

ST antibiotic fungicide **herbicide** **insecticide**
plant growth regulator combination antitumor

IT Trichoderma polysporum
 ((ATCC 20475; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Trichoderma harzianum
 ((ATCC 20476); methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Pseudomonas fluorescens
 (1629RS; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Pseudomonas fluorescens
 (A506; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Zeolites (synthetic), biological studies
 Zeolites (synthetic), biological studies

Zeolites (synthetic), biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(Ag; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Surfactants
(Alkanolamide; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(Bacillus thuringiensis Cry1F and Cfy1Ab; methods and compns. for
increasing the efficacy of biol.-active ingredients such as antitumor
agents)

IT Balsams
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(Canadian; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Alcohols, biological studies
Alcohols, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(C11-15-secondary, ethoxylated; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)

IT Isoalkanes
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(C12-14; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Alcohols, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(C12-15; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Alcohols, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(C6-12; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Diglycerides
Glycerides, biological studies
Monoglycerides
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(C8-10 monoglycerides and diglycerides; methods and compns. for
increasing the efficacy of biol.-active ingredients such as antitumor
agents)

IT Alcohols, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(C8-10; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Pseudomonas fluorescens
(EG-1053; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Bacillus subtilis
(GBO3; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Pheromones, animal
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(German cockroach; methods and compns. for increasing the efficacy of

biol.-active ingredients such as antitumor agents)

IT Fats and Glyceridic oils, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Japan wax; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Sarcoma
(Kaposi's; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Paraffin oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Low mol. weight; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Bacillus subtilis
(MBI 600; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Gene, animal
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(MDR, Arabidopsis thaliana; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Melaleuca alternifolia; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Balsams
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Peru; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Bacillus subtilis
(QST 713 strain; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Named reagents and solutions
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Stoddard; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Paecilomyces lilacinus
(Strain 251; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Lymphoproliferative disorders
(Waldenstrom's macroglobulinemia; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Kidney, neoplasm
(Wilms'; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Leukemia
(acute lymphocytic; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Urethanes
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(adhesives; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Immunostimulants
(adjuvants; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Silica gel, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(aerogel; methods and compns. for increasing the efficacy of

biol.-active ingredients such as antitumor agents)

IT Flours and Meals
(alfalfa; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Amines, biological studies
Amines, biological studies
Petroleum resins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(aliphatic; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Delphinium
(alkaloid; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Helleborus
Schoenocaulon
(alkaloids; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Quaternary ammonium compounds, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(alkylbenzyltrimethyl, chlorides; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)

IT Quaternary ammonium compounds, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(alkyltrimethyl, bromides; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)

IT Quaternary ammonium compounds, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(alkyltrimethyl, chlorides; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)

IT Glycosides
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(amino; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(anise; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Antitumor agents
(antibiotic; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Cytotoxic agents
(antimetabolites; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Antibiotics
Drug resistance
(antitumor; methods and compns. for increasing the efficacy
of biol.-active ingredients such as antitumor agents)

IT Paecilomyces fumoso-roseus
(apopka strain 97; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Petroleum, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(aromatic, alkylated; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Straw
(barley; methods and compns. for increasing the efficacy of

- biol.-active ingredients such as antitumor agents)
- IT. Quaternary ammonium compounds, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(benzyl(hydrogenated tallow alkyl)dimethyl, salts with bentonite;
methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)
- IT Quaternary ammonium compounds, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(benzyl-C12-14-alkyldimethyl; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(bergamot; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Prunus amygdalus
(bitter almond; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Slags
(blast-furnace; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Linseed oil
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(boiled; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(cade; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)
- IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(cajuput; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Caseins, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(calcium complexes; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(camphor; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Gelatins, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(capsules; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Head, neoplasm
(carcinoma; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Milk substitutes
(cattle; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(cedar leaf; methods and compns. for increasing the efficacy of

biol.-active ingredients such as antitumor agents)

IT Essential oils
Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(cedarwood; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Uterus, neoplasm
(cervix; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(chamomile; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Perfumes
(cherry fragrance oil 493; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)

IT Paraffin waxes, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(chloro; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Carcinoma
Chorion, neoplasm
(choriocarcinoma; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Leukemia
(chronic lymphocytic; methods and compns. for increasing the efficacy
of biol.-active ingredients such as antitumor agents)

IT Leukemia
(chronic myelocytic; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(cinnamon; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(citronella; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Cellulose pulp
(citrus; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(citrus; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(clove; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Naphtha
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(coal; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Amines, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL

- (Biological study); USES (Uses)
(coco alkyl, compds. with tetrachlorophenol (1:1); methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Amides, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(coco, N-(hydroxyethyl); methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Fatty acids, biological studies
Fatty acids, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(coco, cadmium salts; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Intestine, neoplasm
(colon; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bentonite, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(compound with dimethyldioctadecylammonium chlorid; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Naphthenic acids, biological studies
Naphthenic acids, biological studies
Resin acids
Resin acids
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(copper salts; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Food analysis
(corn-containing, hydrolyzed; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Flours and Meals
(corn; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Flours and Meals
(cottonseed; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Avena sativa
Triticum aestivum
(cracked; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bread
(crumb; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Syzygium aromaticum
(crushed; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Isoalkanes
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(c11-12; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Quaternary ammonium compounds, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(dicoco alkyl dimethyl, chlorides; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Fatty acids, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL

(Biological study); USES (Uses)
(dimer acids; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Urogenital tract
(disease; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Coal tar
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(distillate, heavy oils; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)

IT Coal tar
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(distillate, upper; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Petroleum products
(distillates, C12-30-aromatic; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)

IT Petroleum products
(distillates, aliphatic; methods and compns. for increasing the efficacy
of biol.-active ingredients such as antitumor agents)

IT Petroleum products
(distillates, aromatic; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Petroleum products
(distillates, refined; methods and compns. for increasing the efficacy
of biol.-active ingredients such as antitumor agents)

IT Petroleum products
(distillates; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Lime (chemical)
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(dolomitic; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Blood
(dried; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT High throughput screening
(drug; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Nicotiana tabacum
(dust; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Uterus, neoplasm
(endometrium, adenocarcinoma; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)

IT Linseed oil
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(epoxidized; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Myeloproliferative disorders
(essential thrombocythemia; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)

IT Fatty acids, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(esters; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Monoglycerides
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL

(Biological study); USES (Uses)
(ethoxylated coco; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Lanolin
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(ethoxylated, acetate; methods and compns. for increasing the efficacy
of biol.-active ingredients such as antitumor agents)

IT Lanolin
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(ethoxylated; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(eucalyptus; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Allium cepa
Glycine max
Juniperus communis
Malt
Myrica cerifera
(extract; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Lonchocarpus
(exts.; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Alcohols, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(fatty; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Fats and Glyceridic oils, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(fish; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Cottonseed
Glycine max
Secale cereale
Zea mays
(flour and meal; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Juglans regia
Wood
(flour; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Polyesters, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(foam, UL-94 HF1 listed; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)

IT Mycosis
(fungoides; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Repellents
(game; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Disease, animal
(genitourinary; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Essential oils

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(geranium; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Vitis vinifera

(grape pomace; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Pseudotsuga menziesii

(ground bark; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Zea mays

(ground cobs; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Oryza sativa

(ground hulls; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Sesamum indicum

(ground plant; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)

IT Avena sativa

(ground; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Leukemia

(hairy-cell; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Wood

(hard, oil; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Carcinoma

(head; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Naphtha

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)

(heavy aromatic; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Petroleum, biological studies

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)

(heavy paraffinic distillate; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)

IT Drug screening

(high throughput; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Coal tar pitch

(high-temperature; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Glycine max

(hulls; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Neoplasm

(humoral hypercalcemia of malignancy; methods and compns. for
increasing the efficacy of biol.-active ingredients such as antitumor
agents)

IT Resin acids

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)

(hydrogenated, Me esters; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)

IT Castor oil

Soybean oil

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)

(hydrogenated; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Syrups (sweetening agents)
(hydrolyzed starch; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Paraffin waxes, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(hydrotreated; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Pancreatic islet of Langerhans, neoplasm
(insulinoma; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Syrups (sweetening agents)
(invert; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Antibacterial agents
(iodophors; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Pigments, nonbiological
(iron oxide; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Bacillus subtilis
(isolate B246; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Ampelomyces quisqualis
(isolate M-10; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(jasmine; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Paints
(latex; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(lavender; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Naphthenic acids, biological studies
Naphthenic acids, biological studies
Naphthenic acids, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(lead salts; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Eucalyptus
Mentha pulegium
(leaves; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(lemon; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(lemongrass; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Skin, disease

(lesion; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(lime; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Capsicum annuum annuum
(longum group, paprika; methods and compns. for increasing the efficacy
of biol.-active ingredients such as antitumor agents)

IT Beta vulgaris saccharifera
Fish
Meat
Medicago sativa
(meal; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Flours and Meals
(meat meal; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Fats and Glyceridic oils, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(menhaden; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Naphthenic acids, biological studies
Naphthenic acids, biological studies
Naphthenic acids, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(mercury salts; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Acacia
Adrenal cortex, neoplasm
Agrobacterium tumefaciens
Agrobacterium vitis
Agrotis segetum granulovirus
Alkylating agents, biological
Allium cepa
Allium sativum
Ampelomyces quisqualis
Anthracene oil
Antibiotic resistance
Arabidopsis thaliana
Arachis hypogaea
Aschersonia aleyrodis
Avena sativa
Bacillus sphaericus
Bacillus thuringiensis
Beeswax
Bladder, neoplasm
Bone meal
Brain, neoplasm
Bran
Capsicum
Caramel (color)
Carcinoid
Chamomile
Cheese
Cinnamon (horticultural common name)
Combination chemotherapy
Cork
Corncob
Cottonseed meal

Creosote
Cytotoxic agents
Daucus carota
Desmodium
Drug delivery systems
Drug screening
 Drugs
Esophagus, neoplasm
Fumigants
Fungicides
Gentiana
Glues
Glues
Gossypium hirsutum
 Herbicides
Hodgkin's disease
Honey
Human
 Insecticides
Jet aircraft fuel
Liliopsida
Lung, neoplasm
Magnoliopsida
Mammary gland, neoplasm
Meat
Medicago sativa
Melanoma
Mentha piperita
Milk
Mint
Molasses
Multiple myeloma
Nicotiana tabacum
Nucleopolyhedrovirus
Oatmeal
Odor and Odorous substances
Oryza sativa
Ovary, neoplasm
Paenibacillus popilliae
Paints
Paper
Paperboard
Peanut butter
Phlebia gigantea
Phlebiopsis gigantea
Polycythemia vera
Prostate gland, neoplasm
Pseudomonas chlororaphis
Puccinia canaliculata
Quassia
Quillaja
Rabbit calicivirus
Raisin
Repellents
Rosmarinus officinalis
Sawdust
Seaweed
Sinorhizobium meliloti
Skin, neoplasm
Solanum tuberosum
Solvent naphtha
Solvent naphtha
Solvent naphtha

Solvent naphtha
Sorghum bicolor
Sphagnum
Staphylococcus aureus
Stomach, neoplasm
Testis, neoplasm
Theobroma cacao
Theobroma cacao
Thickening agents
Thymus (plant)
Tomato mosaic virus
Trigonella foenum-graecum
Triticum aestivum
Verticillium lecanii
Wheat flour
Wheat flour
Whey
Wool
Yeast
Zea mays

(methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Amino acids, biological studies
Androgens
Asbestos
Asphalt
Bentonite, biological studies
Canola oil
Carbon black, biological studies
Caseins, biological studies
Castor oil
Chlorinated natural rubber
Coal tar
Coal tar
Coal tar
Coconut oil
Cod liver oil
Collagens, biological studies
Corn oil
Corticosteroids, biological studies
Cottonseed oil
Creosote oil
Cytokinins
Diatomite
Epoxy resins, biological studies
Essential oils
Feldspar-group minerals
Fertilizers
Gasoline
Gelatins, biological studies
Gibberellins
Glycopeptides
Granite, biological studies
Growth regulators, plant
Humic acids
Hydrocarbon oils
Hydrocarbon oils
Jojoba oil
Kaolin, biological studies
Kerosene
Lard
Ligroine
Lime (chemical)

Linseed oil
Macrolides
Mica-group minerals, biological studies
Naphthenic acids, biological studies
Naphthenic oils
Natural products, pharmaceutical
Nitrile rubber, biological studies
Olive oil
Palm oil
Paraffin oils
Paraffin oils
Paraffin waxes, biological studies
Peanut oil
Perlite
Petrolatum
Petroleum hydrocarbons
Petroleum resins
Petroleum spirits
Phenols, biological studies
Phosphoproteins
Plastics, biological studies
Polyamides, biological studies
Polyamides, biological studies
Polyamines
Polyenes
Polyoxyalkylenes, biological studies
Polysiloxanes, biological studies
Polysiloxanes, biological studies
Polysiloxanes, biological studies
Polyurethanes, biological studies
Polyvinyl butyrals
Progestogens
Protein hydrolyzates
Pumice
Pyrethrins
Pyrethrins
Pyrethrins
Pyrethrins
Rape oil
Resins
Rosin
Rubber, biological studies
Safflower oil
Sand
Saponins
Shale
Shellac
Silica gel, biological studies
Soaps
Soapstone
Soybean oil
Tall oil
Tallow
Tetracyclines
Tung oil
Turpentine
Waxes
Wood tar
Zeins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Fats and Glyceridic oils, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(mink; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Anagrapha falcifera
(multi-nuclear polyhedrosis virus (AFMNPV); methods and compns. for
increasing the efficacy of biol.-active ingredients such as antitumor
agents)

IT Skin, neoplasm
(mycosis fungoides; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Carcinoma
(neck; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Abies
(needle oil; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Neck, anatomical
(neoplasm, carcinoma; methods and compns. for increasing the efficacy
of biol.-active ingredients such as antitumor agents)

IT Nerve, neoplasm
(neuroblastoma; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Chloramines
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(nitrogen mustards; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Fuel oil
(number 1; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Diesel fuel
Fuel oil
(number 2; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Fuel oil
(number 4; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Fuel oil
(number 6; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Lymphoma
(non-Hodgkin's; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Surfactants
(nonionic; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Alkanes, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(normal C5-20; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Neodiprion sertifer
(nuclear polyhedrosis virus; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)

IT Aloe barbadensis
Lavandula hybrida
(oil; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT Resins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)

- (oleoresins, capsicum; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bone, neoplasm
Sarcoma
(osteosarcoma; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Rosin
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(partially hydrogenated; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Citrus limon
(peel oil; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pepper, Piper nigrum berry; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(peppermint; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Sulfonic acids, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(petroleum, sodium salts; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Tar
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pine, oil; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
Tar
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pine; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Rosin
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polymerized; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Vinyl compounds, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polymers, synthetic; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Vinyl compounds, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polymers; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Malus pumila
(pomace; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Feed
(poultry; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Gelatins, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL

(Biological study); USES (Uses)
(powdered; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Beta vulgaris
(powder; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Zea mays
(product,hydrolyzed; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Carcinoma
(pulmonary small-cell; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Citrus sinensis
(pulp; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Xanthomonas campestris
(pv Poannua; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Antitumor agents
(resistance to; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Sarcoma
(rhabdomyosarcoma; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(rosemary; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(rosin; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Flours and Meals
(rye; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Naphthenic acids, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(salts, compound with dodecyldimethylbenzylammonium; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Sulfonic acids, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(salts; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(sassafras; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Meat
(scraps; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Weed
(seed oil; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Panicum
(seed; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Bacillus sphaericus

(serotype H-5A5B, strain 2362; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Fats and Glyceridic oils, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(sesame; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Fertilizers
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(sewage sludge; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Egg
(shell; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Juglans regia
(shells, ground; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Arachis hypogaea
(shells; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Lung, neoplasm
(small-cell carcinoma; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Caseins, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(sodium complexes; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Polyphosphoric acids
Sulfonic acids, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(sodium salts; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Soaps
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(sodium tallow; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Animal tissue, disease
(soft, neoplasm, sarcoma; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Sarcoma
(soft-tissue; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Amines, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(soya alkyl, ethoxylated; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Fatty acids, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(soya, Me esters; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Flours and Meals
(soybean; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(soybean; methods and compns. for increasing the efficacy of

- biol.-active ingredients such as antitumor agents)
- IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(spearmint; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Fats and Glyceridic oils, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(sperm oil; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Phlebiopsis gigantea
(spores and mycelium spores; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)
- IT Gliocladium catenulatum
Nosema locustae
Paenibacillus popilliae
(spores; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Pseudomonas chlororaphis
(strain 63-28; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Pseudomonas syringae
(strain 742 RS; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Pseudomonas syringae
(strain AGS31 & strain PS31; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus cereus
(strain BPO; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Pseudomonas syringae
(strain ESC-10; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Pseudomonas syringae
(strain ESC-11; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT **Agrobacterium tumefaciens**
(strain K1026; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Streptomyces griseoviridis
(strain K61; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT **Agrobacterium tumefaciens**
(strain K84; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Pseudomonas fluorescens
(strain NCIB 12089; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Pseudomonas chlororaphis
(strain Tx-1; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Bacillus cereus
(strain UW85; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Hordeum vulgare
(straw; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(sub Kurstaki strain EG7673 coleopteran active toxin; methods and
compns. for increasing the efficacy of biol.-active ingredients such as
antitumor agents)
- IT Bacillus thuringiensis

- (sub Kurstaki strain EG7673 lepidopteran active toxin; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subsp Aizawai, GC-91 protein; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subsp Aizawai, serotype H-7; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subsp Aizawai; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subsp Israelensis, serotype H-14; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subsp Kurstaki strain SA-12; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subsp Kurstaki, genetically engineered strain AGRO1 by Agrevo; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subsp Kurstaki, genetically engineered strain AGRO2 by Agrevo; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subsp Kurstaki, serotype; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subsp Kurstaki, strain EG2348; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subsp Kurstaki, strain EG2371; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subsp Kurstaki, strain EG2424; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subsp Kurstaki, strain SA-1 1; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subsp Morrisoni, serotype 8a8b; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
Bacillus thuringiensis
(subsp San Diego; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subsp Tenebrionis; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subspec Tenebrionis delta endotoxin; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subspecies Israelensis strain EG2215; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subspecies Israelensis, strain IPS-78; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

- IT *Bacillus thuringiensis*
(subspecies *Kurstaki* strain HD-1, lepidopteran active toxin; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT *Bacillus thuringiensis*
(subspecies *kurstaki* strain BMP 123; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT *Bacillus thuringiensis*
(subspecies *kurstaki*, genetically engineered strain EG7841 lepidopteran active toxin; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Cod liver oil
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(sulfonated; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Petroleum, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(sulfurized; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT *Helianthus annuus*
(sunflower seed; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Seed
(sunflower; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Fatty acids, biological studies
Fatty acids, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(tall-oil, copper salts; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Fatty acids, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(tall-oil; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(thyme, *Thymus vulgaris*; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT *Burkholderia cepacia*
(type *Wisconsin*; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Petroleum, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(unrefined; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Carcinoma
(uterine endometrial adenocarcinoma; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT *Bacillus thuringiensis*
(var *Kurstaki* strain M-200 protein toxin; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT *Bacillus thuringiensis*
(var *Kurstaki*, genetically engineered strain ECX; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT *Bacillus thuringiensis*

- (var Kurstaki, genetically engineered strain EG7826 Lepidopteran active toxin; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(var kurstaki delta endotoxin protein; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Fats and Glyceridic oils, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vegetable, hydrogenated; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Fats and Glyceridic oils, biological studies
Fats and Glyceridic oils, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vegetable; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Alkaloids, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vinca; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Dyes
(water-soluble; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Glycerides, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(wheat germ-oil; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Fats and Glyceridic oils, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(wheat germ; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Pepper (spice)
(white; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(wintergreen; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Linseed oil
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(with driers; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Creosote
(wood; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Naphthenic acids, biological studies
Naphthenic acids, biological studies
Resin acids
Resin acids
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(zinc salts; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Interferons
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(α ; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT Lactams

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)

(β -; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT 74-82-8D, Methane, triaryl derivs. 85-86-9, Sudan III 109-76-2D,
1,3-Propanediamine, N-alkyl derivs., salts 115-31-1, Thanite 645-92-1
814-49-3 2439-00-1 3032-40-4 3397-62-4 3768-14-7 4147-57-3
7206-15-7 7206-27-1 8003-06-3 8003-19-8D, derivs. 8064-49-1, Tenox
2 8066-01-1 8076-84-4, Tenox 4 9003-01-4 9003-05-8, Polyacrylamide
11144-43-7 12770-24-0, Toximul-P 26532-25-2 31895-21-3, Thiocyclam
35513-93-0D, N-C6-18alkyl derivs. 37300-16-6, Versalon 1112 37350-66-6
39384-60-6, Tenox S 1 41481-51-0 50863-22-4 51068-60-1, Sulglycapin
51796-19-1, Thixatrol ST 51811-79-1, T-Mulz 565 52236-30-3
52508-35-7 58175-59-0 58175-60-3 60864-33-7, Triton CF-10
62031-70-3, Wingstay V 63100-33-4, Triton X 363 66227-09-6
67053-55-8, Toximul D 70193-21-4, Trichlamide 72459-58-6, Triazoxide
76608-88-3, Triapenthenol 76930-44-4, Po-san A 81412-43-3, Tridemorph
83869-01-6, TF 310 85411-41-2, T-Mulz AO 2 87917-06-4, Tensiofix B
7416 87917-07-5, Tensiofix B 7453 92302-40-4 92529-51-6, Sure-Sol
180 94189-31-8, Stepantan A 99105-77-8, Sulcotrione 103737-35-5,
T-Mulz VO 116170-30-0, Thicyofen 118134-30-8, Spiroxamine
119515-38-7, Propidine 123249-43-4, Thidiazimin 130561-48-7, Cintofen
139963-64-7 154201-55-5 168832-50-6 171248-07-0 291536-79-3
291536-80-6 291536-82-8 291536-84-0 291536-86-2
291536-87-3 291536-88-4 291536-89-5 291536-90-8
291536-91-9 313493-42-4 358622-53-4 403806-37-1
845739-24-4 845739-25-5 845739-26-6 845739-27-7 845739-28-8
845739-29-9

RL: PAC (Pharmacological activity); THU (Therapeutic
use); BIOL (Biological study); USES (Uses)

(methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

IT 9003-18-3

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)

(nitrile rubber; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

IT 11121-88-3, Versamid

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)

(resin binder; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

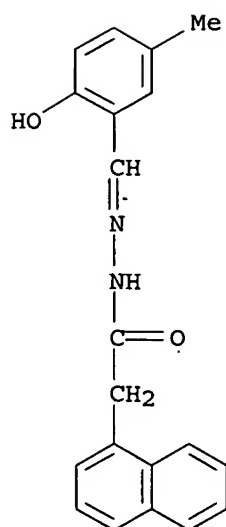
IT 291536-82-8 291536-84-0 291536-87-3
358622-53-4

RL: PAC (Pharmacological activity); THU (Therapeutic
use); BIOL (Biological study); USES (Uses)

(methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

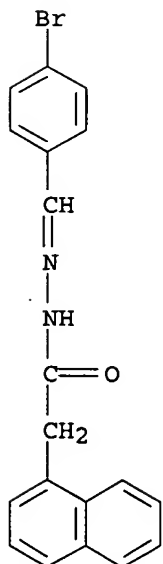
RN 291536-82-8 HCAPLUS

CN 1-Naphthaleneacetic acid, [(2-hydroxy-5-methylphenyl)methylene]hydrazide
(9CI) (CA INDEX NAME)



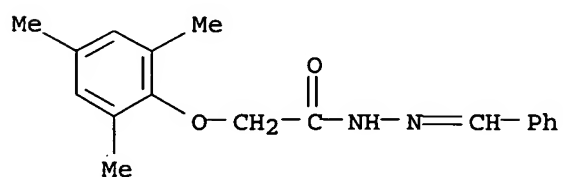
RN 291536-84-0 HCAPLUS

CN 1-Naphthaleneacetic acid, [(4-bromophenyl)methylene]hydrazide (9CI) (CA INDEX NAME)



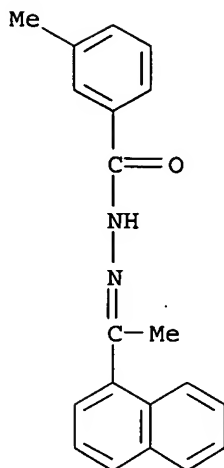
RN 291536-87-3 HCAPLUS

CN Acetic acid, (2,4,6-trimethylphenoxy)-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



RN 358622-53-4 HCAPLUS

CN Benzoic acid, 3-methyl-, [1-(1-naphthalenyl)ethylidene]hydrazide (9CI)
(CA INDEX NAME)



L146 ANSWER 2 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:23438 HCAPLUS

DN 138:68713

ED Entered STN: 10 Jan 2003

TI Modulating resistance of tumor and pathogen cells to foreign compounds by
manipulation of ATP gradients via regulation of ABC transporters
and ecto-phosphatases

IN Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan
M.

PA University of Texas, USA

SO U.S. Pat. Appl. Publ., 41 pp., Cont.-in-part of U.S. Ser. No. 261,825.
CODEN: USXXCO

DT Patent

LA English

IC ICM C12N009-12

ICS C12N009-00

INCL 435194000; 435183000

CC 6-1 (General Biochemistry)

Section cross-reference(s): 1, 5, 7,
10, 11, 13

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003008369	A1	20030109	US 2002-134019	20020425 <--
	US 2002006901	A1	20020117	US 1999-244792	19990205 <--
	WO 2003091403	A2	20031106	WO 2003-US12780	20030425
	WO 2003091403	A3	20041104		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRAI	US 1999-244792	A2	19990205	<--	
	US 1999-261825	A2	19990303	<--	

US 2002-134019

A1

20020425

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2003008369	ICM	C12N009-12
	ICS	C12N009-00
	INCL	435194000; 435183000
US 2003008369	NCL	435/194.000; 435/183.000
	ECLA	A61K009/00M20B; A61K031/165+A; A61K031/165H; A61K031/165P; A61K031/18; A61K031/215L; A61K031/215L10; A61K031/24; A61K031/35P10; A61K031/38H; A61K031/40T10; A61K031/425F; A61K038/13; A61K038/13+M; C07K014/705; C12N009/14; C12N015/82C8B4 <--
US 2002006901	NCL	514/011.000; 514/009.000; 424/045.000
	ECLA	A61K009/00M20B; A61K038/13; A61K038/13+M <--
AB	The present invention relates to methods for modulating the growth of tumor and pathogen cells and the resistance of cells to foreign compds., i.e. drugs, antibiotics, etc. by altering the ATP gradient across biol. membranes. The altering of the ATP gradient across biol. membranes is achieved through the manipulation of ecto-phosphatase (e.g., human apyrase) activity and ABC transporter mol. (e.g., Arabidopsis AtPGP-1) activity which may also be useful to confer herbicide resistance to plants, confer antibiotic resistance to bacteria, confer drug resistance to yeast cells, or to reduce resistance in cells to facilitate chemotherapeutic treatments, and to reduce resistance in bacteria and yeast. The present invention is also directed to the methods for identifying ecto-phosphatase inhibitors and uses thereof. Nineteen ecto-phosphatase inhibitory mols. are provided which are useful in reversing multi-drug resistance in Arabidopsis and yeast.	
ST	drug resistance ATP gradient ABC transporter phosphatase; antibiotic resistance ATP gradient ABC transporter phosphatase; herbicide resistance ATP gradient ABC transporter phosphatase; tumor multidrug resistance ATP gradient modulation	
IT	Transport proteins RL: BSU (Biological study, unclassified); BIOL (Biological study) (ABC (ATP-binding cassette) transporters; modulating resistance of tumor and pathogen cells to foreign compds. by manipulation of ATP gradients via regulation of ABC transporters and ecto-phosphatases)	
IT	Neoplasm (bone marrow; modulating resistance of tumor and pathogen cells to foreign compds. by manipulation of ATP gradients via regulation of ABC transporters and ecto-phosphatases)	
IT	Intestine, neoplasm (colon; modulating resistance of tumor and pathogen cells to foreign compds. by manipulation of ATP gradients via regulation of ABC transporters and ecto-phosphatases)	
IT	Antibiotics Antitumor agents Herbicides (increasing effectiveness of; modulating resistance of tumor and pathogen cells to foreign compds. by manipulation of ATP gradients via regulation of ABC transporters and ecto-phosphatases)	
IT	Antibiotic resistance Bladder, neoplasm Bone, neoplasm Brain, neoplasm Drug resistance Herbicide resistance Human	

Liver, neoplasm

Lung, neoplasm

Lymphoma

Mammalia

Mammary gland, neoplasm

Multidrug resistance

Ovary, neoplasm

Pancreas, neoplasm

Prostate gland, neoplasm

Skin, neoplasm

Staphylococcus

Staphylococcus aureus

Stomach, neoplasm

Testis, neoplasm

(modulating resistance of tumor and pathogen cells to foreign compds.
by manipulation of ATP gradients via regulation of **ABC**
transporters and ecto-**phosphatases**)

IT **P-glycoproteins**

RL: BSU (Biological study, unclassified); BIOL (Biological study)

(modulating resistance of tumor and pathogen cells to foreign compds.
by manipulation of ATP gradients via regulation of **ABC**
transporters and ecto-**phosphatases**)

IT Bone marrow, disease

(neoplasm; modulating resistance of tumor and pathogen cells to foreign
compds. by manipulation of ATP gradients via regulation of **ABC**
transporters and ecto-**phosphatases**)

IT Animal tissue, disease

(soft, neoplasm; modulating resistance of tumor and pathogen cells to
foreign compds. by manipulation of ATP gradients via regulation of
ABC transporters and ecto-**phosphatases**)

IT Neoplasm

(soft-tissue; modulating resistance of tumor and pathogen cells to
foreign compds. by manipulation of ATP gradients via regulation of
ABC transporters and ecto-**phosphatases**)

IT 865-21-4, Vinblastine

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)

(increasing effectiveness of; modulating resistance of tumor and
pathogen cells to foreign compds. by manipulation of ATP gradients via
regulation of **ABC** transporters and ecto-**phosphatases**
)

IT 61-32-5, Methicillin

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(inhibiting growth of cells resistant to; modulating resistance of
tumor and pathogen cells to foreign compds. by manipulation of ATP
gradients via regulation of **ABC** transporters and ecto-
phosphatases)

IT 41481-51-0 139963-64-7 154201-55-5 168832-50-6 171248-07-0

291536-79-3 291536-80-6 291536-81-7 291536-82-8

291536-84-0 291536-85-1 291536-86-2

291536-87-3 291536-88-4 291536-89-5 291536-90-8

291536-91-9 291536-92-0 313493-42-4

RL: AGR (Agricultural use); PAC (Pharmacological
activity); THU (Therapeutic use); BIOL (Biological
study); USES (Uses)

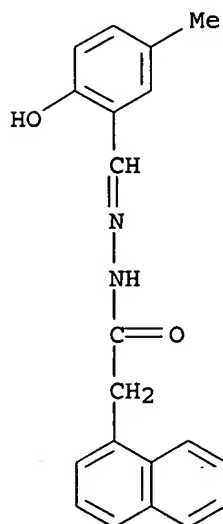
(modulating resistance of tumor and pathogen cells to foreign compds.
by manipulation of ATP gradients via regulation of **ABC**
transporters and ecto-**phosphatases**)

IT 56-65-5, 5'-ATP, biological studies 9000-95-7, Apyrase 9013-05-2
, **Phosphatase**

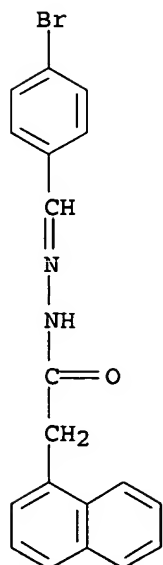
RL: BSU (Biological study, unclassified); BIOL (Biological study)

(modulating resistance of tumor and pathogen cells to foreign compds.
by manipulation of ATP gradients via regulation of **ABC**

transporters and ecto-phosphatases)
 IT 291536-82-8 291536-84-0 291536-85-1
 291536-87-3
 RL: AGR (Agricultural use); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (modulating resistance of tumor and pathogen cells to foreign compds. by manipulation of ATP gradients via regulation of ABC transporters and ecto-phosphatases)
 RN 291536-82-8 HCAPLUS
 CN 1-Naphthaleneacetic acid, [(2-hydroxy-5-methylphenyl)methylene]hydrazide (9CI) (CA INDEX NAME)

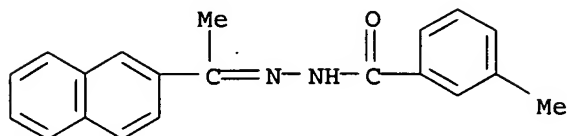


RN 291536-84-0 HCAPLUS
 CN 1-Naphthaleneacetic acid, [(4-bromophenyl)methylene]hydrazide (9CI) (CA INDEX NAME)



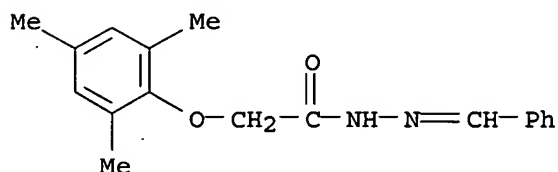
RN 291536-85-1 HCAPLUS

CN Benzoic acid, 3-methyl-, [1-(2-naphthalenyl)ethylidene]hydrazide (9CI)
(CA INDEX NAME)



RN 291536-87-3 HCAPLUS

CN Acetic acid, (2,4,6-trimethylphenoxy)-, (phenylmethylene)hydrazide (9CI)
(CA INDEX NAME)



IT 9013-05-2, Phosphatase

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(modulating resistance of tumor and pathogen cells to foreign compds.
by manipulation of ATP gradients via regulation of ABC
transporters and ecto-phosphatases)

RN 9013-05-2 HCAPLUS

CN Phosphatase (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L146 ANSWER 3 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:870013 HCAPLUS

DN 138:200817

ED Entered STN: 17 Nov 2002

TI Automated colorimetric screen for apyrase inhibitors

AU Windsor, J. B.; Thomas, C.; Hurley, L.;

Roux, S. J.; Lloyd, A. M.

CS The University of Texas at Austin, Austin, TX, USA

SO BioTechniques (2002), 33(5), 1024,1026,1028-1030

CODEN: BTNQDO; ISSN: 0736-6205

PB Eaton Publishing Co.

DT Journal

LA English

CC 7-3 (Enzymes)

AB Apyrases are **enzymes** that efficiently hydrolyze ATP and ADP and may operate both inside and outside the cell. Although apyrases are important to a variety of cellular mechanisms and uses in industry, there are no available apyrase-specific inhibitors. Colorimetric assays based on the Fiske-Subbarow method for measuring inorg. phosphate are able to detect the release of inorg. phosphate from ATP and other nucleotides. We found that this type of assay could be automated and used to screen for apyrase-inhibiting compds. by assaying for a reduction in released phosphate in the presence of potential inhibitors. The automation of this assay allowed for the successful screening of a com. available compound library. Several low mol. weight compds. were identified that, when used at micromolar concns., effectively inhibited apyrase activity.

ST colorimetry screen apyrase inhibitor

IT Colorimetry

Computer application

(automated colorimetric assays based on the Fiske-Subbarow method for screening for apyrase inhibitors)

IT Hydrazones
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(naphthylacetyl, derivs.; automated colorimetric assays based on the Fiske-Subbarow method for screening for apyrase inhibitors)

IT Enzyme kinetics
(of inhibition; automated colorimetric assays based on the Fiske-Subbarow method for screening for apyrase inhibitors)

IT Imides
Sulfonic acids, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(sulfonimides; automated colorimetric assays based on the Fiske-Subbarow method for screening for apyrase inhibitors)

IT 56-65-5, 5'-ATP, biological studies 9000-83-3, ATPase
9000-95-7, Apyrase 9001-77-8, Acid phosphatase
9001-78-9, Alkaline phosphatase 9014-00-0, E.C.
1.14.14.3 29556-18-1D, derivs. 291536-84-0, NGXT 195
291536-91-9, NGXT 1913 313493-42-4, NGXT 199
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(automated colorimetric assays based on the Fiske-Subbarow method for screening for apyrase inhibitors)

RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

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(3) Durward, E; BioTechniques 1998, V25, P608 HCAPLUS
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(6) Gao, X; J Biol Chem 1999, V274, P21450 HCAPLUS
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(8) Handa, M; Biochem Biophys Res Commun 1996, V218, P916 HCAPLUS
(9) Karamohamed, S; BioTechniques 2001, V31, P420 HCAPLUS
(10) Kirchgesser, M; J Clin Chem Clin Biochem 1990, V28, P407 HCAPLUS
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(12) Ngo, H; Exp Parasitol 2000, V95, P148 HCAPLUS
(13) Plesner, L; Int Rev Cytol 1995, V158, P141 HCAPLUS
(14) Sakakibara, T; Anal Biochem 1997, V250, P157 HCAPLUS
(15) Silverman, J; J Biol Chem 1998, V273, P12352 HCAPLUS
(16) Stanley, P; ATP Luminescence: Rapid Methods in Microbiology 1989
(17) Westfall, T; Br J Pharmacol 1996, V117, P867 HCAPLUS
(18) Ziganshin, A; Drug Dev Res 1994, V32, P134 HCAPLUS

IT 9000-83-3, ATPase 9001-77-8, Acid phosphatase
9001-78-9, Alkaline phosphatase 291536-84-0,
NGXT 195
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(automated colorimetric assays based on the Fiske-Subbarow method for screening for apyrase inhibitors)

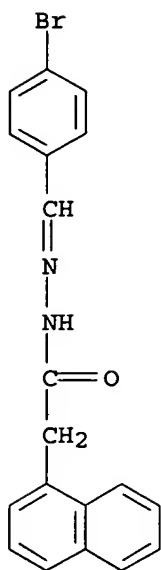
RN 9000-83-3 HCAPLUS
CN Phosphatase, adenosine tri- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9001-77-8 HCAPLUS
CN Phosphatase, acid (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 9001-78-9 HCAPLUS
CN Phosphatase, alkaline (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 291536-84-0 HCAPLUS

CN 1-Naphthaleneacetic acid, [(4-bromophenyl)methylene]hydrazide (9CI) (CA
INDEX NAME)



L146 ANSWER 4 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:833490 HCAPLUS

DN 137:306061

ED Entered STN: 01 Nov 2002

TI Pesticidal and herbicidal activity through modulation of animal
and plant cell membrane transport

IN Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan
M.

PA Board of Regents, The University of Texas System, USA

SO U.S. Pat. Appl. Publ., 41 pp., Cont.-in-part of U. S. Ser. No. 244,791.

CODEN: USXXCO

DT Patent

LA English

IC ICM A01N025-00

INCL 504116100

CC 5-4 (Agrochemical Bioregulators)

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002160915	A1	20021031	US 2001-793336	20010226 <--
	US 6448472	B1	20020910	US 1999-244791	19990205 <--
PRAI	US 1999-244791	A2	19990205	<--	
	US 2000-185299P	P	20000228		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2002160915	ICM	A01N025-00
	INCL	504116100
US 2002160915	NCL	504/116.100
	ECLA	A01N037/28; A01N037/30; A01N061/00; C07K014/415; C12N009/14; C12N015/82C4B; C12N015/82C8B4; C12N015/82C8B; C12Q001/42 <--
US 6448472	NCL	800/278.000; 435/320.100; 435/418.000; 435/419.000; 435/468.000; 800/298.000; 800/300.000
	ECLA	C07K014/415; C12N009/14; C12N015/82C8B4 <--

AB The present invention relates to the modulation of pesticidal and

herbicidal activity by treatment of a membrane transport system in a cell. This entails modifying the extra-cellular **phosphatases** found in the membranes of these cells. By modifying the ATP gradient across the biol. membrane of a target **plant**, bacteria, insect or mammalian cell via inhibiting one or more extra-cellular **phosphatases**, it is possible to alter the sensitivity to a pesticide or **herbicide**. The method also comprises inhibiting an ABC transporter in the target cell. The method can also be used for identifying chems. with pesticidal activity.

ST pesticidal **herbicidal** activity modulation animal **plant**
plasma membrane transport; pesticide **herbicide**
ectophosphatase ABC transporter inhibition

IT **Transport proteins**

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(ABC (ATP-binding cassette)
transporters; enhancement of pesticidal and **herbicidal**
activity by altering the ATP gradient across biol. membranes and
inhibiting an ABC transporter)

IT **Herbicides**

Pesticides

(**ectophosphatase** inhibitors which enhance pesticidal and
herbicidal activity by altering the ATP gradient across biol.
membranes)

IT Pesticides

(toxicity; **ectophosphatase** inhibitors which enhance
pesticidal and **herbicidal** activity by altering the ATP
gradient across biol. membranes)

IT 41481-51-0 139963-64-7 154201-55-5 168832-50-6 171248-07-0
291536-79-3 291536-80-6 291536-81-7 291536-82-8
291536-83-9 291536-84-0 291536-86-2 291536-87-3
291536-88-4 291536-89-5 291536-90-8 291536-91-9 291536-92-0
358622-53-4

RL: AGR (Agricultural use); BUU (Biological use,
unclassified); BIOL (Biological study); USES (Uses)
(**ectophosphatase** inhibitor which enhances pesticidal and
herbicidal activity by altering the ATP gradient across biol.
membranes)

IT 56-65-5, ATP, biological studies

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**ectophosphatase** inhibitors which enhance pesticidal and
herbicidal activity by altering the ATP gradient across biol.
membranes)

IT 9032-64-8, Nucleotide **pyrophosphatase** 37289-25-1
, ATP **pyrophosphatase**

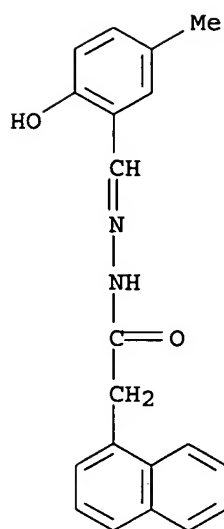
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(extracellular; **ectophosphatase** inhibitors which enhance
pesticidal and **herbicidal** activity by altering the ATP
gradient across biol. membranes)

IT 291536-82-8 291536-84-0 291536-87-3
358622-53-4

RL: AGR (Agricultural use); BUU (Biological use,
unclassified); BIOL (Biological study); USES (Uses)
(**ectophosphatase** inhibitor which enhances pesticidal and
herbicidal activity by altering the ATP gradient across biol.
membranes)

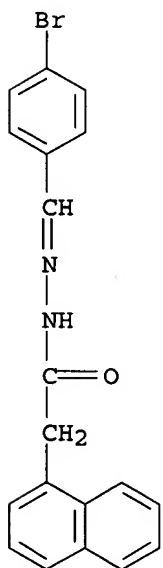
RN 291536-82-8 HCAPLUS

CN 1-Naphthaleneacetic acid, [(2-hydroxy-5-methylphenyl)methylene]hydrazide
(9CI) (CA INDEX NAME)



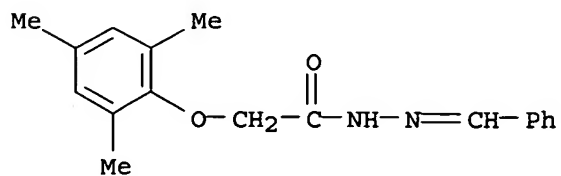
RN 291536-84-0 HCAPLUS

CN 1-Naphthaleneacetic acid, [(4-bromophenyl)methylene]hydrazide (9CI) (CA INDEX NAME)



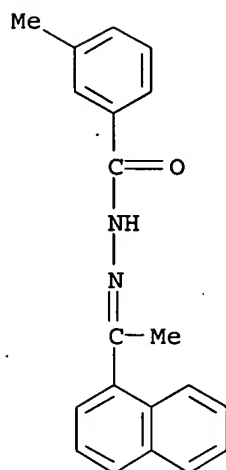
RN 291536-87-3 HCAPLUS

CN Acetic acid, (2,4,6-trimethylphenoxy)-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



RN 358622-53-4 HCAPLUS

CN Benzoic acid, 3-methyl-, [1-(1-naphthalenyl)ethylidene]hydrazide (9CI)
(CA INDEX NAME)



IT 9032-64-8, Nucleotide **pyrophosphatase** 37289-25-1
, **ATP pyrophosphatase**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(extracellular; **ectophosphatase** inhibitors which enhance
pesticidal and **herbicidal** activity by altering the ATP
gradient across biol. membranes)

RN 9032-64-8 HCAPLUS

CN Pyrophosphatase, nucleotide (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 37289-25-1 HCAPLUS

CN Pyrophosphatase, adenosine triphosphate (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L146 ANSWER 5 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:185280 HCAPLUS

DN 136:244034

ED Entered STN: 15 Mar 2002

TI Method for increasing the effectiveness of antiinfective agents by
inhibiting ecto-phosphatase and/or ABC transporter
activities

IN Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan
M.

PA Board of Regents, the University of Texas System, USA

SO PCT Int. Appl., 65 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C12N

CC 9-12 (Biochemical Methods)

Section cross-reference(s): 1, 5, 7, 10,

11

FAN.CNT 1

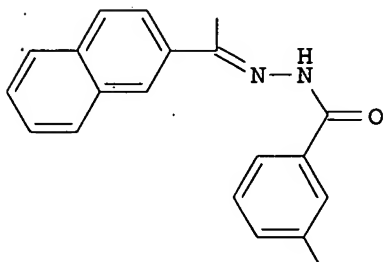
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002020726	A2	20020314	WO 2001-US28242	20010907
	WO 2002020726	A3	20020606		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,			
		CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,			

GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL,
 PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG,
 US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
 BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 AU 2001090710 A5 20020322 AU 2001-90710 20010907
 US 2002077365 A1 20020620 US 2001-949268 20010907
 PRAI US 2000-231088P P 20000908
 WO 2001-US28242 W 20010907

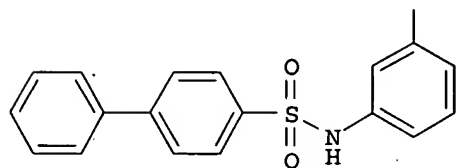
CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2002020726	ICM	C12N
US 2002077365	NCL	514/621.000; 504/329.000; 514/553.000; 504/149.000
	ECLA	A01N037/10; A01N037/22; A01N037/28; A01N037/28+M; A01N037/30; A01N037/38; A01N037/46; A01N041/06; A01N043/12; A01N043/16; A01N043/38; A01N043/78; A01N047/06; A01N047/30; A01N047/44; A61K031/185; C12N009/14; C12N015/82C8; C12N015/82C8B4

GI



I



II

AB The present invention relates to methods for decreasing the resistance of microbial strains to antiinfectives such as antibiotics and antifungals by altering the ATP gradient across biol. membranes. The altering of the ATP gradient across biol. membranes is achieved through the inhibition of **ecto-phosphatase** activity and/or **ABC** transporter mol. activity which may be useful to reduce resistance in bacteria and yeast to aid in the treatment of certain infections and disease and to lower the concentration of antiinfectives necessary to inhibit the growth of microbial strains. Apyrase inhibitor I increased the growth inhibitory effect of the fungicide chlorothalonil by over 50%. Surflan was an equally effective **weed** killer against *Arabidopsis thaliana* at a five-fold less concentration in the presence of II.

ST antiinfective enhancement inhibition **ectophosphatase ABC** transporter; ATP gradient biol membrane antibiotic antifungal

effectiveness; yeast bacteria resistance **ectophosphatase**
ABC transporter; chlorothalonil fungicide enhancement apyrase
inhibitor; surflan **herbicide** adjuvant apyrase inhibitor

IT **Transport proteins**

RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)

(**ABC (ATP-binding cassette)**

transporters; method for increasing effectiveness of
antiinfective agents by inhibiting **ecto-phosphatase** and/or
ABC transporter activities)

IT **Gene, plant**

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
BIOL (Biological study); PREP (Preparation)

(AtPGP-1; method for increasing effectiveness of antiinfective agents
by inhibiting **ecto-phosphatase** and/or **ABC**
transporter activities)

IT **Combinatorial library**

(DIVERSet format F, high throughput screening for apyrase inhibitors;
method for increasing effectiveness of antiinfective agents by
inhibiting **ecto-phosphatase** and/or **ABC transporter**
activities)

IT **P-glycoproteins**

RL: ADV (Adverse effect, including toxicity); BPN (Biosynthetic
preparation); BSU (Biological study, unclassified); BIOL (Biological
study); PREP (Preparation)

(MDR1; method for increasing effectiveness of antiinfective agents by
inhibiting **ecto-phosphatase** and/or **ABC transporter**
activities)

IT **Agrochemical formulations**

(adjuvants; method for increasing effectiveness of antiinfective agents
by inhibiting **ecto-phosphatase** and/or **ABC**
transporter activities)

IT **Fungicides**

(**agrochem.**; method for increasing effectiveness of
antiinfective agents by inhibiting **ecto-phosphatase** and/or
ABC transporter activities)

IT **Membrane, biological**

(altering ATP gradient across; method for increasing effectiveness of
antiinfective agents by inhibiting **ecto-phosphatase** and/or
ABC transporter activities)

IT **Plant cell**

(as target cell; method for increasing effectiveness of antiinfective
agents by inhibiting **ecto-phosphatase** and/or **ABC**
transporter activities)

IT **Infection**

(bacterial; method for increasing effectiveness of antiinfective agents
by inhibiting **ecto-phosphatase** and/or **ABC**
transporter activities)

IT **High throughput screening**

(drug, for apyrase inhibitors; method for increasing effectiveness of
antiinfective agents by inhibiting **ecto-phosphatase** and/or
ABC transporter activities)

IT **Biological transport**

(efflux; method for increasing effectiveness of antiinfective agents by
inhibiting **ecto-phosphatase** and/or **ABC transporter**
activities)

IT **Gene, plant**

RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified);
BIOL (Biological study); PREP (Preparation)

(for apyrase; method for increasing effectiveness of antiinfective
agents by inhibiting **ecto-phosphatase** and/or **ABC**
transporter activities)

IT **Drug screening**

(high throughput, for apyrase inhibitors; method for increasing effectiveness of antiinfective agents by inhibiting ecto-**phosphatase** and/or **ABC** transporter activities)

IT Anti-infective agents
(medical; method for increasing effectiveness of antiinfective agents by inhibiting ecto-**phosphatase** and/or **ABC** transporter activities)

IT Acaricides
Algicides
Animal
Anti-infective agents
Antibacterial agents
 Antibiotic resistance
Antibiotics
Antimicrobial agents
Arabidopsis thaliana
 Bactericide resistance
Drug delivery systems
 Drug resistance
Embryophyta
Eubacteria
 Fungicide resistance
Fungicides
 Herbicide resistance
 Herbicides
Human
 Insecticides
Mammalia
 Multidrug resistance
Nematocides
Pesticides
Pisum sativum
Saccharomyces cerevisiae
Yeast
 (method for increasing effectiveness of antiinfective agents by inhibiting ecto-**phosphatase** and/or **ABC** transporter activities)

IT **Multidrug resistance proteins**
RL: ADV (Adverse effect, including toxicity); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation)
 (method for increasing effectiveness of antiinfective agents by inhibiting ecto-**phosphatase** and/or **ABC** transporter activities)

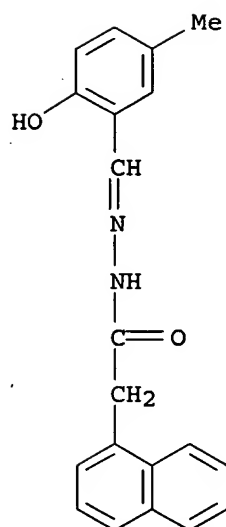
IT Pesticides
 (toxicity; method for increasing effectiveness of antiinfective agents by inhibiting ecto-**phosphatase** and/or **ABC** transporter activities)

IT Infection
 (yeast; method for increasing effectiveness of antiinfective agents by inhibiting ecto-**phosphatase** and/or **ABC** transporter activities)

IT 56-65-5, 5'-ATP, biological studies
RL: BSU (Biological study, unclassified); CUS (Combinatorial use); BIOL (Biological study); CMBI (Combinatorial study); USES (Uses)
 (altering gradient of, across biol. membrane; method for increasing effectiveness of antiinfective agents by inhibiting ecto-**phosphatase** and/or **ABC** transporter activities)

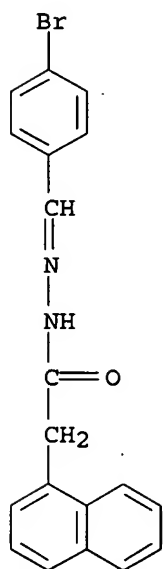
IT 41481-51-0 139963-64-7 154201-55-5 168832-50-6 171248-07-0
291536-79-3 291536-81-7 291536-82-8 291536-84-0
291536-86-2 291536-87-3 291536-88-4 291536-89-5
291536-90-8 291536-91-9 313493-42-4 403806-37-1
RL: BSU (Biological study, unclassified); CST (Combinatorial

- study, unclassified); BIOL (Biological study); CMBI (Combinatorial study)
(as apyrase inhibitor; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT 9000-95-7, Apyrase
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); CUS (Combinatorial use); BIOL (Biological study); CMBI (Combinatorial study); USES (Uses)
(ecto-; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT 9000-83-3, ATPase
RL: BSU (Biological study, unclassified); BIOL (Biological study) (inhibition of, of ectophosphatase; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT 19044-88-3, Surflan 40487-42-1, Pendimethalin
RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
(method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT 291536-80-6 291536-85-1
RL: AGR (Agricultural use); DMA (Drug mechanism of action); BIOL (Biological study); USES (Uses)
(method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT 145-63-1, Suramin
RL: AGR (Agricultural use); DMA (Drug mechanism of action); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT 66-81-9, Cycloheximide 2365-40-4, N6-(2-Isopentenyl)adenine 3768-14-7, α,β -Methyleneadenosine 5'-diphosphate 28380-24-7, Nigericin
RL: BSU (Biological study, unclassified); BIOL (Biological study) (method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT 1897-45-6, Chlorothalonil
RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT 291536-82-8 291536-84-0 291536-87-3
RL: BSU (Biological study, unclassified); CST (Combinatorial study, unclassified); BIOL (Biological study); CMBI (Combinatorial study)
(as apyrase inhibitor; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- RN 291536-82-8 HCAPLUS
CN 1-Naphthaleneacetic acid, [(2-hydroxy-5-methylphenyl)methylene]hydrazide (9CI) (CA INDEX NAME)



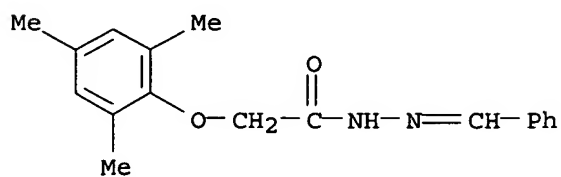
RN 291536-84-0 HCAPLUS

CN 1-Naphthaleneacetic acid, [(4-bromophenyl)methylene]hydrazide (9CI) (CA INDEX NAME)



RN 291536-87-3 HCAPLUS

CN Acetic acid, (2,4,6-trimethylphenoxy)-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



IT 9000-83-3, ATPase

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(inhibition of, of **ectophosphatase**; method for increasing
effectiveness of antiinfective agents by inhibiting ecto-
phosphatase and/or **ABC** transporter activities)

RN 9000-83-3 HCAPLUS

CN Phosphatase, adenosine tri- (9CI) (CA INDEX NAME)

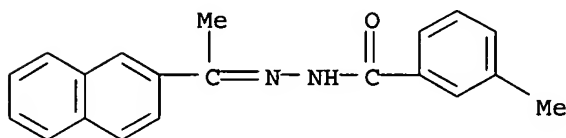
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 291536-85-1

RL: AGR (Agricultural use); DMA (Drug mechanism of
action); BIOL (Biological study); USES (Uses)
(method for increasing effectiveness of antiinfective agents by
inhibiting ecto-**phosphatase** and/or **ABC** transporter
activities)

RN 291536-85-1 HCAPLUS

CN Benzoic acid, 3-methyl-, [1-(2-naphthalenyl)ethylidene]hydrazide (9CI)
(CA INDEX NAME)



L146 ANSWER 6 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:676991 HCAPLUS

DN 135:222868

ED Entered STN: 14 Sep 2001

TI Pesticide adjuvant activity through modulation of animal and plant
cell membrane transport

IN Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan
M.

PA Board of Regents of the University of Texas System, USA

SO PCT Int. Appl., 76 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C12Q001-42

ICS C12Q001-34; C12Q001-00

CC 5-4 (Agrochemical Bioregulators)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001066792	A1	20010913	WO 2001-US7423	20010307
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				
	CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,				
	HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,				
	LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,				
	SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU,				
	ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW:				
	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,				
	DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,				
	BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	US 2002103082	A1	20020801	US 2001-800327	20010306
	CA 2373424	AA	20010913	CA 2001-2373424	20010307
PRAI	US 2000-187819P	P	20000308		
	US 2001-800327	A	20010306		
	WO 2001-US7423	W	20010307		

CLASS

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

WO 2001066792 ICM C12Q001-42
ICS C12Q001-34; C12Q001-00
US 2002103082 NCL 504/116.100; 504/117.000
ECLA C12Q001/42

AB The invention relates to the modulation of pesticidal and herbicidal activity by treatment of a membrane transport system in a cell. This entails modifying the extracellular **phosphatases** found in the membranes of these cells. By modifying the ATP gradient across the biol. membrane of a target **plant**, bacteria, insect or mammalian cell via inhibiting one or more extracellular **phosphatases**, it is possible to alter the sensitivity to a pesticide or herbicide. In preferred embodiments, the chemical moieties of the invention act as adjuvants to enhance pesticidal activity.

ST pesticide adjuvant membrane extracellular **phosphatase** inhibition

IT **Transport proteins**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(ABC (ATP-binding cassette-containing); pesticide adjuvants acting by inhibition of extracellular **phosphatases** and ABC transporters)

IT Fungicides
(fungicide adjuvants acting by inhibition of extracellular **phosphatases** in membranes)

IT **Herbicides**
(herbicide adjuvants acting by inhibition of extracellular **phosphatases** in membranes)

IT Pesticides
(pesticide adjuvants acting by inhibition of extracellular **phosphatases** in membranes)

IT 9013-05-2, **Phosphatase**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(ecto-; pesticide adjuvants acting by inhibition of extracellular **phosphatases** in membranes)

IT 1897-45-6, Chlorothalonil
RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
(fungicide adjuvants acting by inhibition of extracellular **phosphatases** in membranes)

IT 19044-88-3, Surflan 40487-42-1, Pendimethalin
RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
(herbicide adjuvants acting by inhibition of extracellular **phosphatases** in membranes)

IT 41481-51-0 139963-64-7 154201-55-5 168832-50-6 171248-07-0
291536-79-3 291536-80-6 291536-81-7 291536-82-8
291536-84-0 291536-85-1 291536-86-2 291536-87-3**
* 291536-88-4 291536-89-5 291536-90-8 291536-91-9 291536-92-0
313493-42-4
RL: ***AGR (Agricultural use); BIOL (Biological study);
USES (Uses)
(pesticide adjuvant acting by inhibition of extracellular **phosphatases** in membranes)

IT 56-65-5, ATP, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(pesticide adjuvants acting by modification of ATP gradients across membranes)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Boyum; Biochem Biophys Res Commun 1997, V230, P22 HCAPLUS
(2) Decottignies; J Biol Chem 1998, V273(20), P12612 HCAPLUS
(3) Grant; Cancer Research 1994, V54, P357 HCAPLUS

(4) Thomas; The Plant Cell 2000, V12, P519 HCAPLUS

(5) University Of Texas; WO 0052144 A1 2000 HCAPLUS

IT 9013-05-2, **Phosphatase**

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(ecto-; pesticide adjuvants acting by inhibition of extracellular **phosphatases** in membranes)

RN 9013-05-2 HCAPLUS

CN Phosphatase (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 291536-82-8 291536-84-0 291536-85-1

291536-87-3

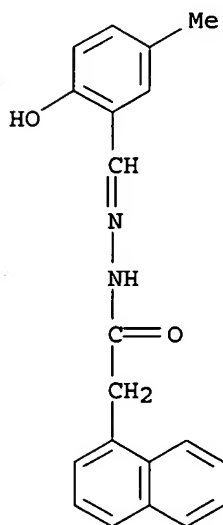
RL: AGR (Agricultural use); BIOL (Biological study);

USES (Uses)

(pesticide adjuvant acting by inhibition of extracellular **phosphatases** in membranes)

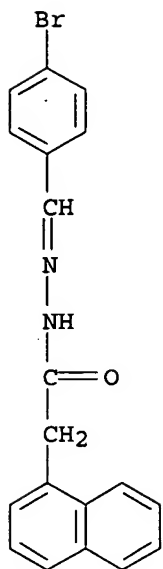
RN 291536-82-8 HCAPLUS

CN 1-Naphthaleneacetic acid, [(2-hydroxy-5-methylphenyl)methylene]hydrazide (9CI) (CA INDEX NAME)

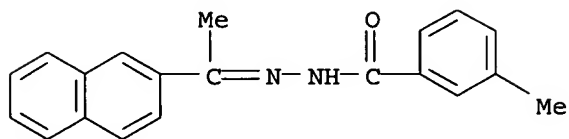


RN 291536-84-0 HCAPLUS

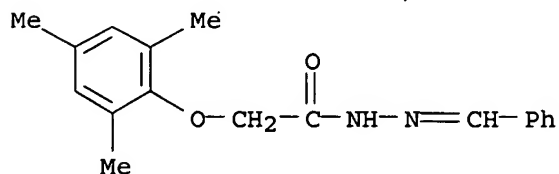
CN 1-Naphthaleneacetic acid, [(4-bromophenyl)methylene]hydrazide (9CI) (CA INDEX NAME)



RN 291536-85-1 HCAPLUS
 CN Benzoic acid, 3-methyl-, [1-(2-naphthalenyl)ethylidene]hydrazide (9CI)
 (CA INDEX NAME)



RN 291536-87-3 HCAPLUS
 CN Acetic acid, (2,4,6-trimethylphenoxy)-, (phenylmethylene)hydrazide (9CI)
 (CA INDEX NAME)



L146 ANSWER 7 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2001:661570 HCAPLUS
 DN 135:206922
 ED Entered STN: 10 Sep 2001
 TI Pesticidal and **herbicidal** activity through modulation of animal
 and **plant** cell membrane transport
 IN Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan
 M.
 PA Board of Regents, the University of Texas System, USA
 SO PCT Int. Appl., 74 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC C12N009-99; C12N015-01; A01H001-06

CC 5-4 (Agrochemical Bioregulators)

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001064859	A1	20010907	WO 2001-US6503	20010227
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				

PRAI US 2000-185299P P 20000228

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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WO 2001064859	IC	C12N009-99IC C12N015-01IC A01H001-06
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AB The invention relates to the modulation of pesticidal and herbicidal activity by treatment of a membrane transport system in a cell. This entails modifying the extra-cellular **phosphatases** found in the membranes of these cells. By modifying the ATP gradient across the biol. membrane of a target **plant**, bacteria, insect or mammalian cell via inhibiting one or more extracellular **phosphatases**, it is possible to alter the sensitivity to a pesticide or **herbicide**. The method also comprises inhibiting an ABC transporter in the target cell. The method can also be used for identifying chems. with pesticidal activity.

ST pesticide **herbicide ectophosphatase ABC**
 transporter inhibition

IT **Transport proteins**

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(ABC (ATP-binding cassette-containing); enhancement of pesticidal and herbicidal activity by altering the ATP gradient across biol. membranes and inhibiting an ABC transporter)

IT **Herbicides**

Pesticides

(ectophosphatase inhibitors which enhance pesticidal and herbicidal activity by altering the ATP gradient across biol. membranes)

IT	41481-51-0	139963-64-7	154201-55-5	168832-50-6	171248-07-0
	291536-79-3	291536-80-6	291536-81-7	291536-82-8	
	291536-83-9	291536-84-0	291536-86-2	291536-87-3	
	291536-88-4	291536-89-5	291536-90-8	291536-91-9	291536-92-0
	358622-53-4				

RL: AGR (Agricultural use); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(ectophosphatase inhibitor which enhances pesticidal and herbicidal activity by altering the ATP gradient across biol. membranes)

IT 56-65-5, ATP, biological studies

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(ectophosphatase inhibitors which enhance pesticidal and herbicidal activity by altering the ATP gradient across biol. membranes)

IT 9032-64-8, Nucleotide pyrophosphatase 37289-25-1, ATP pyrophosphatase

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(extracellular; **ectophosphatase** inhibitors which enhance
pesticidal and **herbicidal** activity by altering the ATP
gradient across biol. membranes)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Lu, Y; The Plant Cell 1998, V10, P267 HCAPLUS

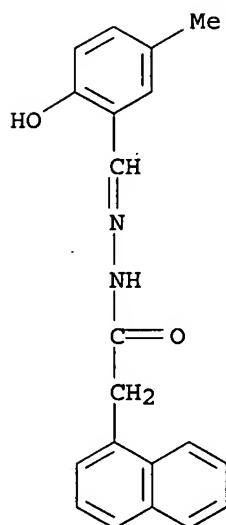
(2) Thomas, C; The Plant Cell 2000, V12, P519 HCAPLUS

IT 291536-82-8 291536-84-0 291536-87-3
358622-53-4

RL: AGR (Agricultural use); BTU (Biological use,
unclassified); BIOL (Biological study); USES (Uses)
(**ectophosphatase** inhibitor which enhances pesticidal and
herbicidal activity by altering the ATP gradient across biol.
membranes)

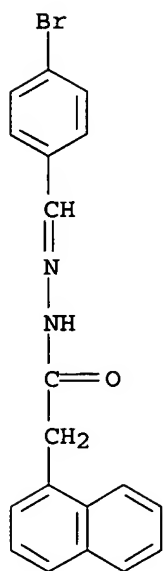
RN 291536-82-8 HCAPLUS

CN 1-Naphthaleneacetic acid, [(2-hydroxy-5-methylphenyl)methylene]hydrazide
(9CI) (CA INDEX NAME)



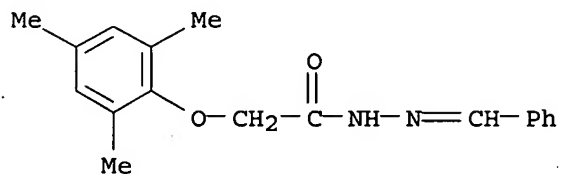
RN 291536-84-0 HCAPLUS

CN 1-Naphthaleneacetic acid, [(4-bromophenyl)methylene]hydrazide (9CI) (CA
INDEX NAME)



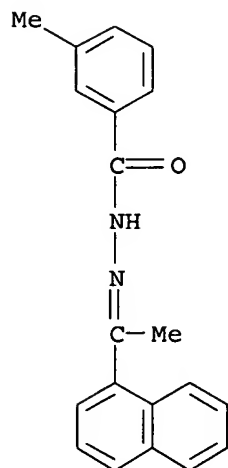
RN 291536-87-3 HCAPLUS

CN Acetic acid, (2,4,6-trimethoxy)-, (phenylmethylene)hydrazide (9CI)
(CA INDEX NAME)



RN 358622-53-4 HCAPLUS

CN Benzoic acid, 3-methyl-, [1-(1-naphthalenyl)ethylidene]hydrazide (9CI)
(CA INDEX NAME)



IT 9032-64-8, Nucleotide pyrophosphatase 37289-25-1
, ATP pyrophosphatase

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL

(Biological study); PROC (Process)
 (extracellular; **ectophosphatase** inhibitors which enhance
 pesticidal and **herbicidal** activity by altering the ATP
 gradient across biol. membranes)

RN 9032-64-8 HCAPLUS

CN Pyrophosphatase, nucleotide (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 37289-25-1 HCAPLUS

CN Pyrophosphatase, adenosine triphosphate (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L146 ANSWER 8 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2000:628251 HCAPLUS

DN 133:219782

ED Entered STN: 10 Sep 2000

TI Genetic and epigenetic manipulation of **ABC** transporters and
 ecto-**phosphatases** for modulating drug resistance and methods for
 detection of ecto-**phosphatase** inhibitors

IN Thomas, Collin E.; Windsor, J. Brian; Roux, Stan
 J.; Lloyd, Alan M.; Hurlley, Laurence

PA University of Texas, USA

SO PCT Int. Appl., 85 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C12N005-04

ICS C12N005-06; C12N001-16; C12N001-20; C12N015-67; C12N015-81;
 C12N015-82; C12N015-90; A01H001-00; A01H005-00

CC 9-2 (Biochemical Methods)

Section cross-reference(s): 1, 3, 10,
 11

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000052144	A1	20000908	WO 2000-US5315	20000228 <--
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1185623	A1	20020313	EP 2000-913685	20000228 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 2002173031	A1	20021121	US 2002-47251	20020114 <--
PRAI	US 1999-261825	A	19990303	<--	
	WO 2000-US5315	W	20000228		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2000052144	ICM	C12N005-04
	ICS	C12N005-06; C12N001-16; C12N001-20; C12N015-67; C12N015-81; C12N015-82; C12N015-90; A01H001-00; A01H005-00
US 2002173031	NCL	435/245.000; 435/195.000
	ECLA	A61K031/165+A; A61K031/166; A61K031/167; A61K031/18; A61K031/215L10; A61K031/216; A61K031/24; A61K031/352; A61K031/381; A61K031/404; A61K031/425F; C07K014/705;

C12N009/14; C12N015/82C8B4

<--

- AB The present invention relates to methods for modulating the resistance of cells to foreign compds., i.e. drugs, antibiotics, etc. by altering the ATP gradient across biol. membranes. Altering the ATP gradient across biol. membranes is achieved through the manipulation of ecto-**phosphatase** activity and **ABC** transporter mol. activity. The above method may be useful to confer **herbicide** resistance to **plants**, antibiotic resistance to bacteria, and drug resistance to yeast cells, or to reduce resistance in cells, bacteria, and yeast in order to facilitate chemotherapeutic treatments. The present invention is also directed to the methods for identifying ecto-**phosphatase** inhibitors and uses thereof. Thus, *Arabidopsis thaliana* has been shown to possess an ecto-apyrase and this ecto-apyrase and PGP-1 (an MDR-like protein) to have a role in MDR. Addnl., the extracellular ATP pool was shown to be critical for MDR in yeast. Screening of a combinatorial library of small mols. has resulted in identification of apyrase inhibitors.
- ST drug resistance **ectophosphatase ABC** transporter ATP gradient
- IT **Transport proteins**
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
 (ABC; genetic and epigenetic manipulation of **ABC transporters** and ecto-**phosphatases** for modulating drug resistance and methods for detection of ecto-**phosphatase** inhibitors)
- IT Membrane, biological
 (ATP gradient across; genetic and epigenetic manipulation of **ABC transporters** and ecto-**phosphatases** for modulating drug resistance and methods for detection of ecto-**phosphatase** inhibitors)
- IT Chemotherapy
Herbicide resistance
 (augmentation of; genetic and epigenetic manipulation of **ABC transporters** and ecto-**phosphatases** for modulating drug resistance and methods for detection of ecto-**phosphatase** inhibitors)
- IT Neoplasm
 (decreasing drug resistance in; genetic and epigenetic manipulation of **ABC transporters** and ecto-**phosphatases** for modulating drug resistance and methods for detection of ecto-**phosphatase** inhibitors)
- IT *Arabidopsis thaliana*
Aspergillus fumigatus
 Bacteria (Eubacteria)
Drug resistance
Lactococcus lactis
 Pea
Plant cell
Saccharomyces cerevisiae
 Yeast
 (genetic and epigenetic manipulation of **ABC transporters** and ecto-**phosphatases** for modulating drug resistance and methods for detection of ecto-**phosphatase** inhibitors)
- IT Animal cell
 (mammalian; genetic and epigenetic manipulation of **ABC transporters** and ecto-**phosphatases** for modulating drug resistance and methods for detection of ecto-**phosphatase** inhibitors)
- IT 50-81-7, Ascorbic acid, uses 11098-84-3, Ammonium molybdate
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (genetic and epigenetic manipulation of **ABC transporters** and ecto-**phosphatases** for modulating drug resistance and methods for detection of ecto-**phosphatase** inhibitors)

IT 9013-05-2, Phosphatase 41481-51-0 139963-64-7
154201-55-5 168832-50-6 171248-07-0 291536-79-3 291536-80-6
291536-81-7 291536-82-8 291536-83-9 291536-84-0
291536-85-1 291536-86-2 291536-87-3 291536-88-4
291536-89-5 291536-90-8 291536-91-9 291536-92-0
RL: BAC (Biological activity or effector, except adverse);
BSU (Biological study, unclassified); BIOL (Biological
study)
(genetic and epigenetic manipulation of ABC transporters and
ecto-phosphatases for modulating drug resistance and methods
for detection of ecto-phosphatase inhibitors)

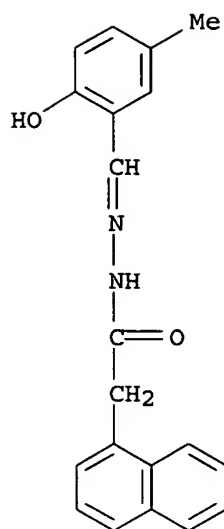
IT 56-65-5, ATP, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified);
BIOL (Biological study); OCCU (Occurrence)
(gradient of; genetic and epigenetic manipulation of ABC
transporters and ecto-phosphatases for modulating drug
resistance and methods for detection of ecto-phosphatase
inhibitors)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Decottignies; J Biol Chem 1998, V273(20), P12612 HCAPLUS
(2) Dudler; J Biol Chem 1992, V267(9), P5882 HCAPLUS
(3) Grant; Cancer Research 1994, V54, P357 HCAPLUS
(4) Kiba; Plant Cell Physiol 1995, V36(5), P809 HCAPLUS
(5) Lu; The Plant Cell 1998, V10, P267 HCAPLUS
(6) Sidler; The Plant Cell 1998, V10(10), P1632
(7) Thomas; Plant Physiol 1999, V119, P543 HCAPLUS
(8) Wang; J Biol Chem 1996, V271(17), P9898 HCAPLUS

IT 9013-05-2, Phosphatase 291536-82-8
291536-84-0 291536-85-1 291536-87-3
RL: BAC (Biological activity or effector, except adverse);
BSU (Biological study, unclassified); BIOL (Biological
study)
(genetic and epigenetic manipulation of ABC transporters and
ecto-phosphatases for modulating drug resistance and methods
for detection of ecto-phosphatase inhibitors)

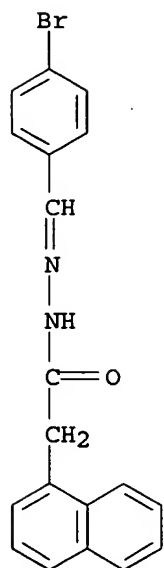
RN 9013-05-2 HCAPLUS
CN Phosphatase (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 291536-82-8 HCAPLUS
CN 1-Naphthaleneacetic acid, [(2-hydroxy-5-methylphenyl)methylene]hydrazide
(9CI) (CA INDEX NAME)



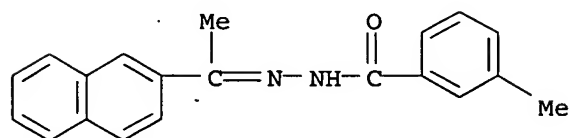
RN 291536-84-0 HCAPLUS

CN 1-Naphthaleneacetic acid, [(4-bromophenyl)methylene]hydrazide (9CI) (CA INDEX NAME)



RN 291536-85-1 HCAPLUS

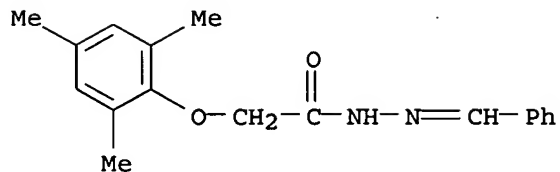
CN Benzoic acid, 3-methyl-, [1-(2-naphthalenyl)ethanone]hydrazide (9CI) (CA INDEX NAME)



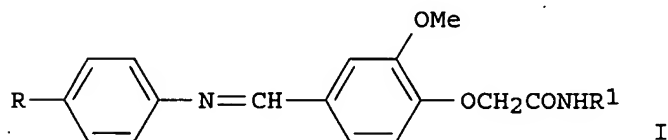
RN 291536-87-3 HCAPLUS

CN Acetic acid, (2,4,6-trimethylphenoxy)-, (phenylmethylene)hydrazide (9CI)

(CA INDEX NAME)



L146 ANSWER 9 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1996:495114 HCAPLUS
 DN 125:247329
 ED Entered STN: 20 Aug 1996
 TI Synthesis and antifungal activity of some new 2-methoxy-4-(N-substituted arylidene)phenoxyacetic acid hydrazides and their N-benzylidene derivatives
 AU Joshi, P. C.
 CS Chem. Lab., Kumaun Univ. Campus, Almora, 263 601, India
 SO Asian Journal of Chemistry (1996), 8(3), 455-458
 CODEN: AJCHEW; ISSN: 0970-7077
 PB Asian Journal of Chemistry
 DT Journal
 LA English
 CC 25-19 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
 Section cross-reference(s): 5
 GI



AB Title compds. I (R = H, Me, Cl, Br, iodo; R1 = NH2, R2CH:N; R2 = Ph, substituted Ph) were prepared starting from etherification of 3,4-MeO(OH)C6H3CH:NC6H4R with ClCH2CO2Et. I (R = Me, R1 = PhCH:N, 4-O2NC6H4CH:N) showed antifungal activity against Alternaria alternata, Aspergillus flavus, and Fusarium moniliforme.
 ST arylidenephenoxyacetic acid hydrazide prepn fungicide
 IT Fungicides and Fungistats
 (synthesis and antifungal activity of arylidenephenoxyacetic acid hydrazide derivs.)
 IT 51264-92-7P 51264-93-8P 51264-94-9P 53304-13-5P 53304-14-6P
 78721-40-1P 181761-07-9P 181761-08-0P 181761-10-4P 181761-11-5P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
 (synthesis and antifungal activity of arylidenephenoxyacetic acid hydrazide derivs.)
 IT 181761-12-6P 181761-13-7P 181761-15-9P 181761-16-0P
 181761-18-2P 181761-20-6P 181761-21-7P 181761-22-8P
 181761-24-0P 181761-25-1P 181761-26-2P 181761-27-3P
 181761-30-8P 181761-32-0P 181761-34-2P 181761-36-4P
 181761-38-6P 181761-41-1P 181761-44-4P 181761-47-7P
 181761-50-2P 181761-53-5P 181761-57-9P 181761-61-5P
 181761-64-8P
 RL: BAC (Biological activity or effector, except adverse);

BSU (Biological study, unclassified); SPN (Synthetic preparation);
 BIOL (Biological study); PREP (Preparation)
 (synthesis and antifungal activity of arylidenephenoxyacetic acid
 hydrazide derivs.)

IT 90-02-8, 2-Hydroxybenzaldehyde, reactions 100-52-7, Benzaldehyde,
 reactions 104-87-0, 4-Methylbenzaldehyde 105-39-5, Ethyl chloroacetate
 123-11-5, 4-Methoxybenzaldehyde, reactions 555-16-8,
 4-Nitrobenzaldehyde, reactions 3382-70-5 3382-71-6 17696-53-6
 53304-12-4 58285-74-8

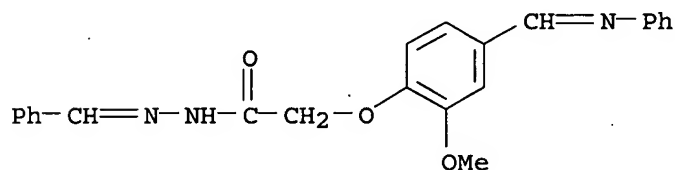
RL: RCT (Reactant); RACT (Reactant or reagent)
 (synthesis and antifungal activity of arylidenephenoxyacetic acid
 hydrazide derivs.)

IT 181761-12-6P 181761-20-6P 181761-26-2P
 181761-36-4P 181761-50-2P

RL: BAC (Biological activity or effector, except adverse);
 BSU (Biological study, unclassified); SPN (Synthetic preparation);
 BIOL (Biological study); PREP (Preparation)
 (synthesis and antifungal activity of arylidenephenoxyacetic acid
 hydrazide derivs.)

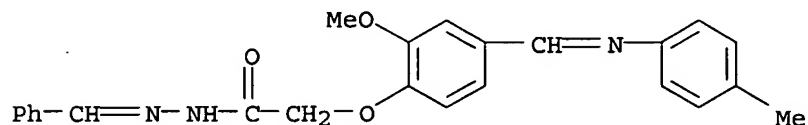
RN 181761-12-6 HCAPLUS

CN Acetic acid, [2-methoxy-4-[(phenylimino)methyl]phenoxy]-,
 (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



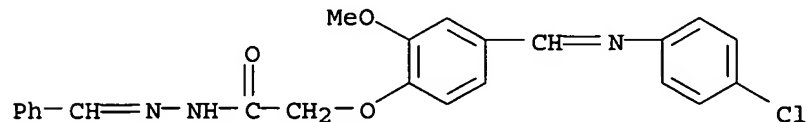
RN 181761-20-6 HCAPLUS

CN Acetic acid, [2-methoxy-4-[(4-methylphenyl)imino]methyl]phenoxy]-,
 (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



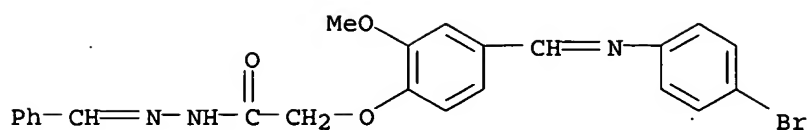
RN 181761-26-2 HCAPLUS

CN Acetic acid, [4-[(4-chlorophenyl)imino]methyl]-2-methoxyphenoxy]-,
 (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



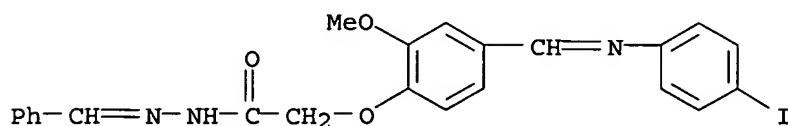
RN 181761-36-4 HCAPLUS

CN Acetic acid, [4-[(4-bromophenyl)imino]methyl]-2-methoxyphenoxy]-,
 (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



RN 181761-50-2 HCAPLUS

CN Acetic acid, [4-[[[(4-iodophenyl)imino]methyl]-2-methoxyphenoxy]-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



L146 ANSWER 10 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1988:610952 HCAPLUS

DN 109:210952

ED Entered STN: 10 Dec 1988

TI Synthesis of newer 5-chloro-2-phenylbenzimidazoles as potential antiviral agents. Part-LIII

AU Singh, Vijay LA.; Varma, Rajendra S.

CS Chem. Dep., Lucknow Univ., Lucknow, 226 007, India

SO Journal of the Indian Chemical Society (1988), 65(2), 139-40

CODEN: JICSAH; ISSN: 0019-4522

DT Journal

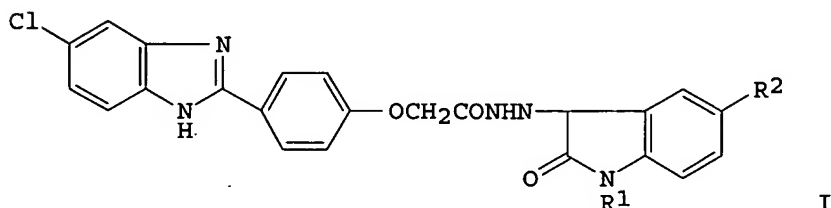
LA English

CC 28-9 (Heterocyclic Compounds (More Than One Hetero Atom))

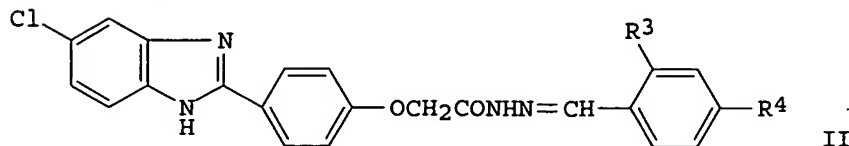
Section cross-reference(s): 5

OS CASREACT 109:210952

GI



I

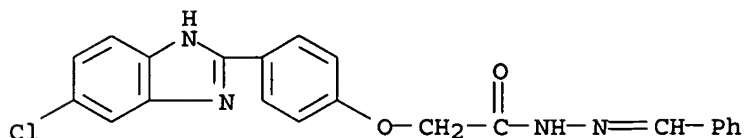


II

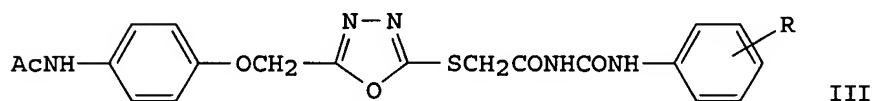
AB An acetohydrazide derivative underwent a condensation reaction with isatins to give hydrazones I (R1 = H, Me; R2 = H, Cl, Me, Br). Similarly prepared were benzaldehyde hydrazones II (R3 = H, OH; R4 = H, OMe). I and II exhibited plant antiviral activity.

ST benzimidazole carbamoylmethoxyphenyl prepn plant virucide;

- carbamylmethoxyphenylbenzimidazole prepn plant virucide;
benzimidazolylphenoxyacetohydrazide prepn plant virucide
- IT Virucides and Virustats
(agrochem., [(carbamoylmethoxy)phenyl]benzimidazoles)
- IT 302-01-2, Hydrazine, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(amidation by, of (benzimidazolylphenoxy)acetate ester derivative)
- IT 87-48-9, 5-Bromoisatin 90-02-8, Salicylaldehyde, reactions 91-56-5,
Isatin 100-52-7, Benzaldehyde, reactions 123-11-5,
4-Methoxybenzaldehyde, reactions 608-05-9, 5-Methylisatin 2058-74-4,
1-Methylisatin 17630-76-1, 5-Chloroisatin 60434-13-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation reaction of, with (benzimidazolylphenoxy)acetohydrazide derivative)
- IT 95-83-0, 4-Chloro-1,2-benzenediamine
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation reaction of, with hydroxybenzoic acid)
- IT 99-96-7, 4-Hydroxybenzoic acid, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation reaction of, with phenylenediamine derivative)
- IT 105-39-5, Ethyl chloroacetate
RL: RCT (Reactant); RACT (Reactant or reagent)
(etherification by, of (hydroxyphenyl)benzimidazole derivative)
- IT 117332-23-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and amidation of, by hydrazine)
- IT 117332-24-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and condensation reaction of, with isatins and benzaldehydes)
- IT 113561-60-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and etherification of, by chloroacetate ester)
- IT 117332-25-9P 117332-26-0P 117332-27-1P 117332-28-2P 117332-29-3P
117332-30-6P 117332-31-7P 117332-32-8P 117332-33-9P
RL: BAC (Biological activity or effector, except adverse);
BSU (Biological study, unclassified); SPN (Synthetic preparation);
BIOL (Biological study); PREP (Preparation)
(preparation and plant antiviral activity of)
- IT 117332-31-7P
RL: BAC (Biological activity or effector, except adverse);
BSU (Biological study, unclassified); SPN (Synthetic preparation);
BIOL (Biological study); PREP (Preparation)
(preparation and plant antiviral activity of)
- RN 117332-31-7 HCAPLUS
- CN Acetic acid, [4-(5-chloro-1H-benzimidazol-2-yl)phenoxy]-,
(phenylmethyle)hydrazide (9CI) (CA INDEX NAME)



TI Synthesis and biological activity of some hydrazones and ureido
 oxadiazoles of 4-acetamidophenoxyacetic acid hydrazide
 AU Shukla, M. K.; Singh, S. P.; Agarwal, V. K.
 CS Dep. Chem., Lucknow Univ., Lucknow, 226 007, India
 SO Current Science (1980), 49(24), 936-8
 CODEN: CUSCAM; ISSN: 0011-3891
 DT Journal
 LA English
 CC 28-11 (Heterocyclic Compounds (More Than One Hetero Atom))
 Section cross-reference(s): 1, 5, 25
 GI



AB 4-AcNHC₆H₄OCH₂CONHN:CHC₆H₄R (I, R = H, 4-Me, 2-NO₂, 3-NO₂, 4-NO₂, 2-OH, 4-OH, 2-Cl, 4-Cl, 2,4-Cl₂, 4-NMe₂, 4-NEt₂) were obtained in 70-5% yield by treating 4-AcNHC₆H₄OCH₂CONHNH₂ (II) with RC₆H₄CHO. I are central nervous system depressants and I (R = 3-NO₂, 4-Cl) had bactericidal activity against *Bacillus subtilis*. The oxadiazoles III (R = H, 2-Me, 4-Me, 2-OMe, 4-OMe) were obtained in 30-40% yield by treating II with CS₂ and treating the resulting thiol with ClCH₂CONHCONHC₆H₄R. III are virucidal and III (R = H, 2-Me, 4-OMe) have bactericidal activity.

ST benzaldehyde acetamidophenoxyacetylhydrazone; bactericide benzaldehyde acetamidophenoxyacetylhydrazone; central depressant benzaldehyde acetamidophenoxyacetylhydrazone; arylureidoacetylthiooxadiazole prep virucide bactericide; oxadiazole arylureidoacetylthio

IT Virucides and Virustats
 (acetamidophenoxyethyl(arylureidoacetylthio)oxadiazoles)

IT Central nervous system depressants
 (benzaldehyde acetamidophenoxyacetylhydrazones)

IT Bactericides, Disinfectants and Antiseptics
 (benzaldehyde acetamidophenoxyacetylhydrazones and acetamidophenoxyethyl(arylureidoacetylthio)oxadiazoles)

IT 77068-85-0P 77068-90-7P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and bactericidal and central nervous system depressant activity of)

IT 77068-82-7P 77068-83-8P 77068-84-9P 77068-86-1P
 77068-87-2P 77068-88-3P 77068-89-4P 77068-91-8P 77068-92-9P
 77068-93-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and central nervous system depressant activity of)

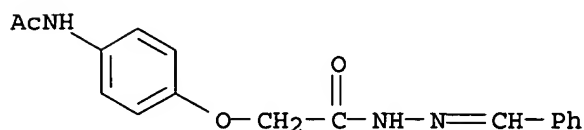
IT 77068-94-1P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction of, with chloroacetylureas)

IT 77068-96-3P 77068-97-4P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
 (preparation and virucidal activity of)

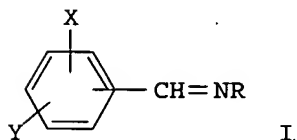
IT 77068-95-2P 77068-98-5P 77074-20-5P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and virucidal and bactericidal activity of)

IT 75-15-0, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with acetamidophenoxyacetylhydrazine)
 IT 75129-75-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with aromatic aldehydes)
 IT 4791-23-5 13558-76-4 13558-77-5 13558-78-6 16615-79-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with oxadiazolethirole)
 IT 77068-82-7P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and central nervous system depressant activity of)
 RN 77068-82-7 HCAPLUS
 CN Acetic acid, [4-(acetylamino)phenoxy]-, (phenylmethylene)hydrazide (9CI)
 (CA INDEX NAME)



L146 ANSWER 12 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1976:442100 HCAPLUS
 DN 85:42100
 ED Entered STN: 12 May 1984
 TI Phytotoxicity of hydrazones of aromatic aldehydes
 AU Mazza, M.; Montanari, L.; Pavanetto, F.
 CS Dep. Chim. Farm., Univ. Pavia, Pavia, Italy
 SO Farmaco, Edizione Scientifica (1976), 31(5), 334-44
 CODEN: FRPSAX; ISSN: 0430-0920
 DT Journal
 LA Italian
 CC 5-3 (Agrochemicals)
 Section cross-reference(s): 25
 GI



AB The title compds. I (X and Y = H, OH, Me, OMe, halo, NO₂, etc.; R = NHPh, NMePh, NMe₂, NHAc and 1,2,4-triazolyl) and the related compds. were prepared and tested for **herbicidal** activity on 7 weed species. Most compds. were active, especially against *Amaranthus retroflexus*. The highest activity was shown i.e. by 4-(4-isopropylbenzylidene)amino-1,2,4-triazole [32787-77-2], 2-methoxybenzaldehyde methylphenylhydrazone [23718-92-5] and salicylaldehyde methylphenylhydrazone [59670-28-9].
 ST arom hydrazone **herbicide**
 IT **Herbicides**
 (aromatic aldehyde hydroazones)
 IT Molecular structure-biological activity relationship
 (**herbicidal**, of aromatic aldehyde hydrazones)
 IT 588-64-7P 610-64-0P 614-65-3P 622-73-1P 790-48-7P 940-48-7P

1075-70-3P	1216-15-5P	2216-75-3P	2828-47-9P	2829-25-6P
2829-26-7P	2829-27-8P	2829-28-9P	2989-45-9P	3101-58-4P
3681-18-3P	5051-43-4P	5051-47-8P	5051-49-0P	5051-51-4P
5098-90-8P	5941-05-9P	6579-24-4P	7539-23-3P	10407-16-6P
10424-92-7P	10424-94-9P	13405-65-7P	13466-39-2P	14064-21-2P
14371-13-2P	14371-16-5P	14371-17-6P	16435-03-3P	16435-04-4P
16917-42-3P	18998-48-6P	18998-49-7P	18998-50-0P	18998-51-1P
18998-53-3P	21719-62-0P	21719-63-1P	21968-29-6P	22699-29-2P
22699-30-5P	23550-76-7P	23718-92-5P	23718-94-7P	23718-95-8P
23718-97-0P	24090-98-0P	24090-99-1P	24091-13-2P	24091-14-3P
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25996-51-4P	26090-73-3P	26090-77-7P	26090-79-9P	32787-73-8P
32787-75-0P	32787-76-1P	32787-77-2P	32787-78-3P	32787-79-4P
32787-80-7P	32787-81-8P	32787-83-0P	32787-84-1P	33078-89-6P
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59670-43-8P	59670-44-9P	59670-45-0P	59670-46-1P	59670-47-2P
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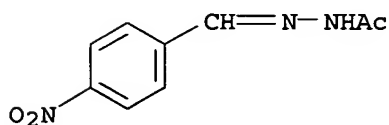
RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation and herbicidal activity of)

IT 25996-47-8P

RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation and herbicidal activity of)

RN 25996-47-8 HCAPLUS

CN Acetic acid, [(4-nitrophenyl)methylene]hydrazide (9CI) (CA INDEX NAME)



L146 ANSWER 13 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1974:82564 HCAPLUS

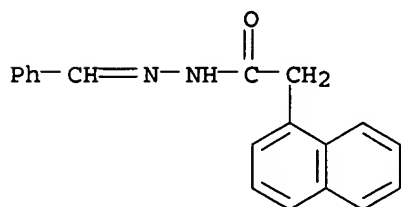
DN 80:82564

ED Entered STN: 12 May 1984

TI Enzyme inhibitors. IX. Preparation and in vitro study of

N2-substituted hydrazides of 2-(5-methylindole)carboxylic and 1-naphthylacetic acids as monoamineoxidase inhibitors

AU Monge Vega, A.; Fernandez Alvarez, E.
 CS Fac. Farm., Univ. Navarra, Pamplona, Spain
 SO Anales de Quimica (1968-1979) (1973), 69(11), 1149-55
 CODEN: ANQUBU; ISSN: 0365-4990
 DT Journal
 LA Spanish
 CC 27-11 (Heterocyclic Compounds (One Hetero Atom))
 Section cross-reference(s): 26
 AB The hydrazides RCONHNHR1 (I, R = 5-methyl-2-indolyl, 1-naphthylmethyl, R1 = C3-6 alkyl, phenylalkyl) were prepared by treating the hydrazides RCONHNH2 with the aldehydes and reducing the hydrazones with NaBH4. I had 1-40 times the monoamine oxidase-inhibiting activity of iproniazid.
 ST hydrazide monoamine oxidase inhibitor; indolecarboxylic acid hydrazide; naphthylacetic acid hydrazide
 IT 609-14-3
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (cyclization of, with p-toluidine)
 IT 9001-66-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (inhibitors of, indolecarboxylic and naphthylacetic acid hydrazides)
 IT 1463-64-5P 34800-90-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction of, with aldehydes)
 IT 16382-15-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction of, with hydrazine)
 IT 1086-51-7P 1086-52-8P 1094-37-7P 51698-84-1P 51698-85-2P
 51698-86-3P 51698-87-4P 51698-88-5P 51698-89-6P 51698-90-9P
 51698-91-0P 51698-92-1P 51698-93-2P 51698-94-3P 51698-95-4P
 51698-96-5P 51698-97-6P 51698-98-7P 51698-99-8P 51699-00-4P
 51699-01-5P 51699-02-6P 51699-03-7P 51699-04-8P 51699-05-9P
 51699-06-0P 51699-07-1P 51699-08-2P 51699-09-3P 51699-10-6P
 51699-11-7P 51699-12-8P 51699-13-9P 51699-14-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 IT 106-49-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with acetylacetate derivative)
 IT 1094-37-7P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 1094-37-7 HCAPLUS
 CN 1-Naphthaleneacetic acid, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



DN 72:66627
 ED Entered STN: 12 May 1984
 TI **Insecticidal** arylhydrazones, hydrazines, and acylated amines
 PA Agripat S. A.
 SO Fr., 13 pp.
 CODEN: FRXXAK
 DT **Patent**
 LA French
 IC A01N
 CC 25 (Noncondensed Aromatic Compounds)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 1572191		19690627		<--
	CH 480790			CH	
	DE 1642214			DE	
	GB 1225357			GB	
	GB 1225358			GB	
	US 3549767		19700000	US	<--
PRAI	CH		19661216	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
FR 1572191	IC	A01N
US 3549767	NCL	514/482.000; 514/464.000; 514/522.000; 514/599.000; 514/639.000

AB Hydrazones, hydrazines, and acylated amines with **insecticidal** properties are prepared. Thus, iso-butylhydrazine 220 in 1:1 EtOH-H₂O 400 was added with stirring to 4'-chloroacetophenone 300 in EtOH 500 and AcOH 20 parts, and the mixture heated to 70° to give N1-isobutyryl-N2-4'-chloroacetophenone hydrazone, m. 144-5° (EtOH-heptane). Also prepared was N1-(methoxythiocarbonyl)-N2-4'-chlorobenzaldehyde hydrazone, m. 165-7° (MeOH) from methoxythiocarbonyl hydrazide and p-chlorobenzaldehyde. Sixty-four active compds. are prepared and **insecticidal** compns. are given.

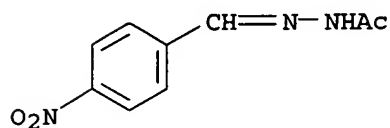
ST **insecticides** hydrazones; hydrazones **insecticides**; hydrazines **insecticides**; acylamines **insecticides**
 IT Hydrazones
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (aryl, manufacture and **insecticidal** activity of)

IT **Insecticides**
 (hydrazones)

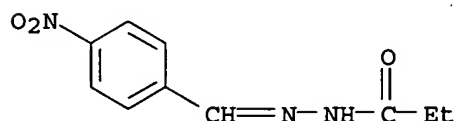
IT 25415-88-7DP, Hydrazide, aryl
 RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation and **insecticidal** activity of)

IT 3206-35-7P 3973-99-7P 5051-73-0P 6283-04-1P 6953-30-6P
 7151-53-3P 17655-31-1DP, Amide, N-(2-arylethyl), preparation
 25996-40-1P 25996-41-2P 25996-42-3P 25996-44-5P 25996-45-6P
 25996-46-7P **25996-47-8P 25996-48-9P**
25996-49-0P 25996-50-3P 25996-51-4P 25996-52-5P
 25996-54-7P 25996-55-8P 25996-56-9P 25996-57-0P 25996-58-1P
 25996-59-2P 25996-60-5P 25996-61-6P 25996-62-7P 25996-63-8P
 25996-64-9P 25996-65-0P 25996-66-1P 25996-67-2P 25996-68-3P
 25996-69-4P 25996-70-7P 25996-71-8P 25996-72-9P 25996-73-0P
 25996-74-1P 25996-76-3P 25996-77-4P 25996-78-5P 25996-79-6P
 25996-80-9P 25996-81-0P 25996-82-1P 25996-83-2P 25996-84-3P
 25996-85-4P 25996-86-5P 25996-87-6P 26011-68-7P 26011-69-8P
 26011-71-2P 26011-72-3P 26011-73-4P 26090-73-3P 26090-74-4P
 26090-75-5P 26090-77-7P 26090-78-8P 26090-79-9P 26138-34-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

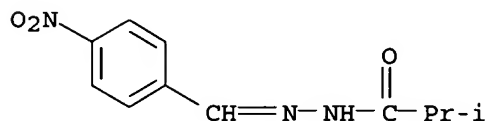
IT 25996-47-8P 25996-48-9P 25996-49-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 25996-47-8 HCAPLUS
 CN Acetic acid, [(4-nitrophenyl)methylene]hydrazide (9CI) (CA INDEX NAME)



RN 25996-48-9 HCAPLUS
 CN Propionic acid, (p-nitrobenzylidene)hydrazide (8CI) (CA INDEX NAME)



RN 25996-49-0 HCAPLUS
 CN Isobutyric acid, (p-nitrobenzylidene)hydrazide (8CI) (CA INDEX NAME)



L146 ANSWER 15 OF 16 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1965:16315 HCAPLUS

DN 62:16315

OREF 62:2975a-e

ED Entered STN: 22 Apr 2001

TI Monoamine oxidase inhibitors. III. Hydrazine derivatives of certain arylacetic acids

AU Bojarska-Dahlig, Halina

CS Inst. Farm., Warsaw

SO Acta Polon. Pharm. (1963), 20(4), 293-302

DT Journal

LA Polish

CC 57 (Enzymes)

AB cf. CA 60, 9268c. Compds. of formula $\text{PhCH}_2\text{CONHN:C(R)R}_1$ (I) and $1\text{-C}_{10}\text{H}_7\text{CH}_2\text{CONHN:C(R)R}_1$ (II) were prepared and tested in vitro for monoamine oxidase inhibition. To prepare the intermediate compds., $\text{PhCH}_2\text{CONHNHCH(R)R}_1$ (III) and $1\text{-C}_{10}\text{H}_7\text{CH}_2\text{CONHNHCH(R)R}_1$ (IV), resp., 0.01 mole arylacetylhydrazine in 25 ml. 50% EtOH was treated with 0.01 mole carbonyl compound in a min. amount of 50% EtOH, the mixture refluxed 1 hr., most of the EtOH distilled, and the residue neutralized with NaHCO_3 . III (or IV) (0.05 mole) dissolved in 300 ml. EtOH, hydrogenated 3 hrs. at 70° and 40 atmospheric with 1.5 g. 10% Pd-carbon, the mixture filtered, the filtrate concentrated,

and the residue treated, if necessary, with petr. ether yielded I (or II). Given are R, R_1 , % yield of I, m.p. I, % yield of III, m.p. III, % inhibition of monoamine oxidase by III, that of $\text{PhCH}_2\text{CH}_2\text{NHNH}_2$ in $10\text{-}4\text{M}$ concentration being considered 100%, and molarity of III solns. used in biol. testing: H, Ph, 84, $147\text{-}8^\circ$ (EtOH), 79, $113.5\text{-}14^\circ$, 59, $10\text{-}4$;

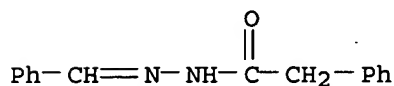
H, 2-pyridyl, 90, 163-3.5°, 70, 91-2° (EtOH), 83, 10-4; H, 3-pyridyl, 93, 144-5°, 90, 83.5-4° (AcOEt-petr. ether) 77, 10-4; H, 4-pyridyl, 96, 154-5°, 75, 94-5° (EtOH-petr. ether), 84, 10-4; Me, Ph, 100, 158-60.5°, hydrogenation failed; Me, 2-pyridyl, 74, 144-5° (EtOH), 86, 118-19.5° (EtOH), 57, 10-4; Me, 3-pyridyl, 69, 136-8°, 53, 102-5° (HCl salt), 51, 10-4; Me, 4-pyridyl, 93, 148.5-9.5°, 52, 104.5-5° (EtOH-petr. ether), 30, 10-4; Me, Me, 49, 197-8°, hydrogenation failed; Me, Pr, 69, 111-11.5°, hydrogenation failed; Me, 3-carbazolyl, 65, 219-20° (EtOH), hydrogenation failed; analogous data for II and IV are: H, Ph, 95, 215-15.5°, 77, 107-8° (EtOH), 78, 10-4; H, 2-pyridyl, 65, 150-2.5°, 72, 156.5-7°, 48, 10-5; H, 3-pyridyl, 65, 194-6°, 77, 150.5° (AcOEt-petr. ether) (the HCl salt m. 225° with decomposition), 75, 10-5 (the HCl salt, 70 and 10-4); H, 4-pyridyl, 94, 176-8°, 84, 85-6° (AcOEt), 74, 10-4; Me, Ph, 88, 135-8°, 80, 65-6°, 66, 10-4; Me, 2-pyridyl, 91, 190-2°, 33, 99-9.5°, --, --; Me, 3-pyridyl, 94, 171-2°, hydrogenation failed; Me, 4-pyridyl, 99, 166-8°, 53, -- (the HCl salt m. 170-3° with decomposition), 68, 10-4 (biol. data refer to the HCl salt); Me, Me, 52, 104-5.5° (EtOH), 40, 124-4.5°, 37, 10-4. The recrystn. solvent was dilute EtOH unless otherwise stated. With I (R = H, R1 = 2-pyridyl), dilution of the mother liquors left behind the 1st crop yielded an isomeric compound, m. 99.5-100.5° (EtOH). Refluxing 4 hrs. 12.5 g. o-C6H4(CH2CO2Et)2 and 20 g. 40% (NH2)2.H2O gave 9.5 g. o-C6H4(CH2CONHNH2)2, m. 203-4.5°. o-C6H4(CH2CONHNH:CHPh)2 (V), m. 236-7°, was prepared in 88% by the method used for preparation of I and II. Hydrogenated 5 hrs. as above, V yielded 74% o-C6H4(CH2CONHNHCH2Ph)2, m. 150-50.5°, (EtOH); in biol. tests, it gave 74% inhibition in 10-4M concentration. An analogous hydrazone

was

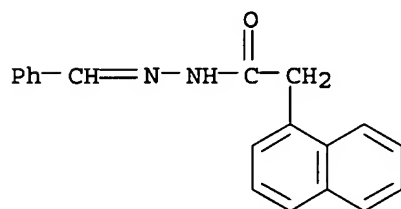
also prepared from o-C6H4(CH2CONHNH2)2 and 2-pyridinecarboxaldehyde in 88%; m.p. 238-9° (C5H5N); its hydrogenation failed.

- IT 1087-36-1, Acetic acid, phenyl-, benzylidenehydrazide 1245-39-2, Acetic acid, phenyl-, (1-carbazol-3-ylethylidene)hydrazide (amino oxidase inhibition by)
- IT 9059-11-4, Amine oxidase (arylacetic acid hydrazine derivative effect on)
- IT 1088-99-9, Acetic acid, phenyl-, 2-[1-(3-pyridyl)ethyl]hydrazide, dihydrochloride (prepn of, and amino oxidase inhibition by)
- IT 1080-09-7, Acetic acid, phenyl-, isopropylidenehydrazide 1083-03-0, o-Benzenediacetic acid, dihydrazide 1083-52-9, Acetic acid, phenyl-, (1-methylbutylidene)hydrazide 1086-51-7, 1-Naphthaleneacetic acid, 2-isopropylhydrazide 1086-52-8, 1-Naphthaleneacetic acid, isopropylidenehydrazide 1087-37-2, Acetic acid, phenyl-, 2-(4-pyridylmethyl)hydrazide 1087-38-3, Acetic acid, phenyl-, (4-pyridylmethylene)hydrazide 1087-39-4, Acetic acid, phenyl-, 2-(3-pyridylmethyl)hydrazide 1087-40-7, Acetic acid, phenyl-, (3-pyridylmethylene)hydrazide 1087-41-8, Acetic acid, phenyl-, 2-(2-pyridylmethyl)hydrazide 1087-42-9, Acetic acid, phenyl-, (2-pyridylmethylene)hydrazide 1088-96-6, Acetic acid, phenyl-, (α-methylbenzylidene)hydrazide 1088-97-7, Acetic acid, phenyl-, 2-[1-(4-pyridyl)ethyl]hydrazide 1088-98-8, Acetic acid, phenyl-, [1-(4-pyridyl)ethylidene]hydrazide 1089-00-5, Acetic acid, phenyl-, [1-(3-pyridyl)ethylidene]hydrazide 1089-01-6, Acetic acid, phenyl-, 2-[1-(2-pyridyl)ethyl]hydrazide 1089-02-7, Acetic acid, phenyl-, [1-(2-pyridyl)ethylidene]hydrazide 1094-36-6, 1-Naphthaleneacetic acid, 2-benzylhydrazide 1094-37-7, 1-Naphthaleneacetic acid, benzylidenehydrazide 1094-38-8, 1-Naphthaleneacetic acid, 2-(4-pyridylmethyl)hydrazide 1094-39-9, 1-Naphthaleneacetic acid, (4-pyridylmethylene)hydrazide 1094-40-2, 1-Naphthaleneacetic acid, 2-(3-pyridylmethyl)hydrazide 1094-41-3, 1-Naphthaleneacetic acid,

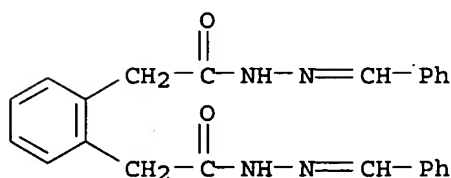
2-(3-pyridylmethyl)hydrazide, dihydrochloride 1094-42-4,
 1-Naphthaleneacetic acid, (3-pyridylmethylene)hydrazide 1094-43-5,
 1-Naphthaleneacetic acid, 2-(2-pyridylmethyl)hydrazide 1094-44-6,
 1-Naphthaleneacetic acid, (2-pyridylmethylene)hydrazide 1096-98-6,
 1-Naphthaleneacetic acid, 2-(α -methylbenzyl)hydrazide 1096-99-7,
 1-Naphthaleneacetic acid, (α -methylbenzylidene)hydrazide
 1097-00-3, 1-Naphthaleneacetic acid, 2-[1-(4-pyridyl)ethyl]hydrazide,
 dihydrochloride 1097-01-4, 1-Naphthaleneacetic acid,
 [1-(4-pyridyl)ethylidene]hydrazide 1097-02-5, 1-Naphthaleneacetic acid,
 [1-(3-pyridyl)ethylidene]hydrazide 1097-03-6, 1-Naphthaleneacetic acid,
 2-[1-(2-pyridyl)ethyl]hydrazide 1097-04-7, 1-Naphthaleneacetic acid,
 [1-(2-pyridyl)ethylidene]hydrazide 1106-90-7, o-Benzenediacetic acid,
 bis(2-benzylhydrazide) 1106-91-8, o-Benzenediacetic acid,
 bis(benzylidenehydrazide) 1106-92-9, o-Benzenediacetic acid,
 bis[(2-pyridylmethylene)hydrazide]
 (preparation of, and amino oxidase inhibition by)
 IT 1087-36-1, Acetic acid, phenyl-, benzylidenehydrazide
 (amino oxidase inhibition by)
 RN 1087-36-1 HCAPLUS
 CN Benzeneacetic acid, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



IT 1094-37-7, 1-Naphthaleneacetic acid, benzylidenehydrazide
 1106-91-8, o-Benzenediacetic acid, bis(benzylidenehydrazide)
 (preparation of, and amino oxidase inhibition by)
 RN 1094-37-7 HCAPLUS
 CN 1-Naphthaleneacetic acid, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



RN 1106-91-8 HCAPLUS
 CN o-Benzenediacetic acid, bis(benzylidenehydrazide) (7CI, 8CI) (CA INDEX NAME)



OREF 61:6955d-f

ED Entered STN: 22 Apr 2001

TI N-Halo-N-methyl-N'-phenylureas

IN Loux, Harvey M.

PA E. I. du Pont de Nemours & Co.

SO 5 pp.

DT Patent

LA Unavailable.

INCL 260553000

CC 35 (Noncondensed Aromatic Compounds)

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3141038		19640714	US	19611113 <--

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 3141038	INCL	260553000
US 3141038	NCL	562/801.000; 504/330.000; 558/314.000 <--

GI For diagram(s), see printed CA Issue.

AB The title compds. were prepared by direct halogenation of the appropriate corresponding methylurea. Thus, to a stirred solution of 0.25 mole 3,4-Cl₂C₆H₃NHCONHMe and 0.25 mole NaOAc in 1200 ml. HOAc, 0.25 mole Cl was added at 17° during 10 min. and the mixture stirred an addnl. 0.5 hr. to give I (R = R₁ = H, R₂ = R₃ = R₄ = Cl), m. 229°, and a filtrate which yielded I (R = R₃ = R₄ = Cl, R₁ = R₂ = H) (II). To 345 ml. 1.1N ethereal solution of MeNHCl, 70 ml. 1.06N hexane solution of 3,4- Cl₂C₆H₃NCO

was

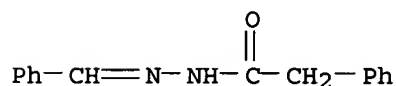
added with stirring at 25° and the mixture stirred an addnl. 1 hr. to give 91.5% II, m. 96.5-7.5° (hexane). To a N hexane solution of 3,4-Cl₂C₆H₃NMeCOCl, an ethereal solution which was N both in MeNHCl and Me₃N was added and the mixture stirred 2 hrs. to give I (R = R₃ = R₄ = Cl, R₁ = Me, R₂ = H). Many analogs of these compds. were reported with no phys. data. These compds. possess outstanding herbicidal activity.

IT 1080-09-7, Acetic acid, phenyl-, isopropylidenehydrazide 1087-36-1
 , Acetic acid, phenyl-, benzylidenehydrazide 89938-88-5, Urea,
 1-chloro-3-(3,4-dichlorophenyl)-1-methyl- 89938-89-6, Urea,
 1-methyl-3-(2,3,4-trichlorophenyl)- 90003-44-4, Urea,
 1-chloro-3-(p-chlorophenyl)-1-methyl- 92032-34-3, Butyric acid,
 2-phenyl-, isopropylidenehydrazide
 (preparation of)

IT 1087-36-1, Acetic acid, phenyl-, benzylidenehydrazide
 (preparation of)

RN 1087-36-1 HCAPLUS

CN Benzeneacetic acid, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



=> => d 1148 bib abs hitstr retable tot

L148 ANSWER 1 OF 45 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2000:304195 HCAPLUS

DN 133:30462

TI Infrared spectra and electrical conductivity of some hydrazones

AU Shabana, Ahmed A.

CS Department of Chemistry, Faculty of Science, Al-Azhar University, Nasr City, Cairo, 11884, Egypt

SO Canadian Journal of Analytical Sciences and Spectroscopy (1999),

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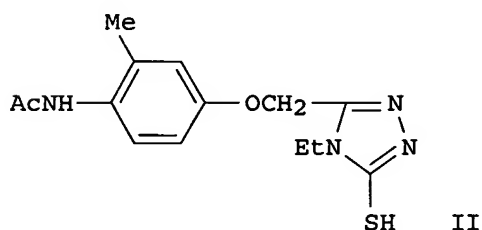
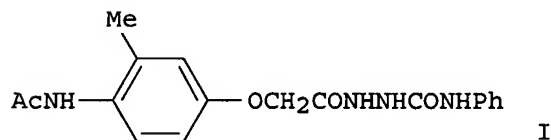
FILE COVERS 1907 - 26 Apr 2005 VOL 142 ISS 18
FILE LAST UPDATED: 25 Apr 2005 (20050425/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

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L58 ANSWER 1 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:809047 HCAPLUS
DN 132:166181
TI Synthesis of some thiazolidinone and triazole derivatives of expected antimicrobial activity
AU Mohamed, Shadia R.
CS Pharmaceutical Chemistry Department, Faculty of Pharmacy, Cairo University, Cairo, Egypt
SO Bulletin of the Faculty of Pharmacy (Cairo University) (1999), 37(2), 33-40
CODEN: BFPHA8; ISSN: 1110-0931
PB Cairo University, Faculty of Pharmacy
DT Journal
LA English
GI



AB New derivs. of semicarbazide and thiosemicarbazide have been synthesized together with new substituted alkyl and aryl 1,2,4-triazoles and a thiazolidinone obtained by cyclizing the appropriate thiosemicarbazide. Screening for antibacterial and antifungal activities using preliminary

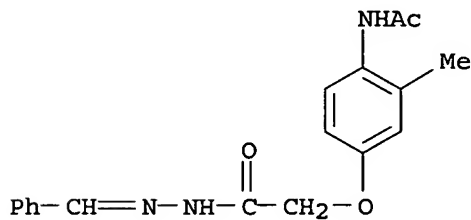
scan by the agar plate inhibition zone method, followed by MIC vs. ampicillin and clotrimazole, revealed high activity for compds. I and II. The partition coeffs. of the most and least biol. active compds. were determined

IT 259104-26-2P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 259104-26-2 HCAPLUS

CN Acetic acid, [4-(acetylamino)-3-methylphenoxy]-,
(phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
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Budavari, S			1083	The Merck INDEX, 12t	
Carlson, H	1948	55	607	J Bacteriol	
Chandra, S	1968	31	117	Indian J Appl Chem	HCAPLUS
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Pathak, R	1980	8	12	J Antibact Antifung	
Pitt, J	1979	57	2021	Can J Bot	
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Singh, S	1981	81	175	Chem Rev	HCAPLUS
Stefan, J	1970			DE 1953149	HCAPLUS
Stefan, J	1968			Swiss Appl	HCAPLUS

L58 ANSWER 2 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1998:775321 HCAPLUS

DN 130:110191

TI Synthesis and antitubercular activity of novel thiazolidinone derivatives

AU Oza, Haresh; Joshi, Dharti; Parekh, Hansa

CS Department of Chemistry, Saurashtra University, Rajkot, 360 005, India

SO Indian Journal of Chemistry, Section B: Organic Chemistry Including
Medicinal Chemistry (1998), 37B(8), 822-824

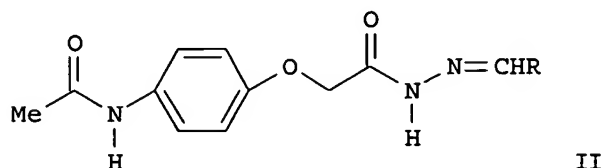
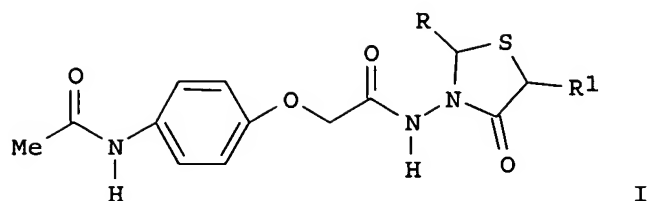
CODEN: IJSBDB; ISSN: 0376-4699

PB National Institute of Science Communication, CSIR

DT Journal

LA English

GI



AB Thirty thiazolidinones I (R = Ph, ClC₆H₄, 4-Me₂NC₆H₄, HOC₆H₄, O₂NC₆H₄, PhCH:CH, etc.; R₁ = H, Me) were prepared by cyclocondensation of Schiff bases II with thioglycolic acid and thiolactic acid. All I were screened for antitubercular activity against Mycobacterium tuberculosis H37 Rv.

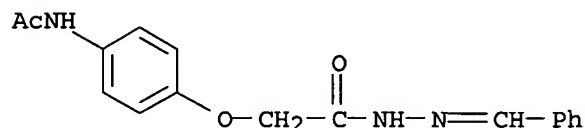
IT 77068-82-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of antitubercular [(acetamidophenoxy)acetamido]thiazolidinones by cyclocondensation of [(acetamidophenoxy)acetyl hydrazide Schiff bases with thioglycolate or thiolactate)

RN 77068-82-7 HCAPLUS

CN Acetic acid, [4-(acetylamino)phenoxy]-, (phenylmethylene)hydrazide (9CI)
(CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
=====	=====	=====	=====	=====	=====
Anon	1992				HCAPLUS
Anon	1993				HCAPLUS
Anon	1994				HCAPLUS
Anon	1996				HCAPLUS
Anon	1996				HCAPLUS
Bianchi, M	1996	117	130	Br J Pharmacol	HCAPLUS
Bjune, K	1996	40	399	Acta Anaesthesiol Sc	HCAPLUS
Clariss, D	1991			ZA 9201	
Hogale, M	1991	30B	717	Indian J Chem	HCAPLUS
Ladva, K	1991	68	379	J Indian Chem Soc	
Nargund, L	1996	35B	499	Indian J Chem	HCAPLUS
Pandya, D	1993	48	414	Pharemazie	HCAPLUS
Vashi, B	1995	34B	802	Indian J Chem	HCAPLUS
Viltaria, D	1992	35	2910	J Med Chem	

L58 ANSWER 3 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

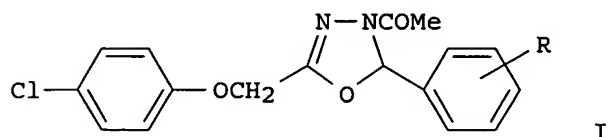
AN 1997:529514 HCAPLUS

DN 127:205529

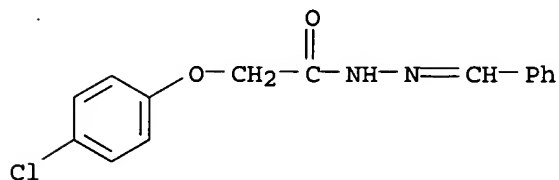
TI Studies on some 2-aryl-5-p-chlorophenoxyethylene-Δ²-1,3,4-

oxadiazolines

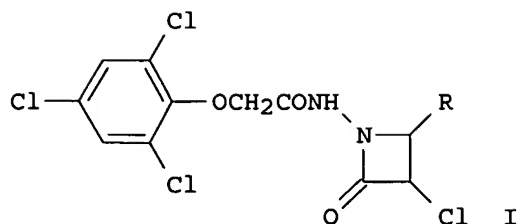
AU Tiperciuc, Brandusa; Ghiran, Doina; Verite, Philippe
 CS Facultatea de Farmacie, U. M. F., Iuliu Hatieganu, Rom.
 SO Clujul Medical (1997), 70(1), 85-90
 CODEN: CLUMBY; ISSN: 0257-7267
 PB Institutul de Medicina si Farmacie Cluj-Napoca
 DT Journal
 LA Romanian
 GI



AB Title compds. I [R = H, 2-OAc, 3-OAc, 4-OAc, 2-OMe, 3-OMe, 4-OMe, 2-Cl, 3-Cl, 4-Cl] were prepared by treating 4-ClC₆H₄OCH₂CONHNH₂ with RC₆H₄CHO and cyclization with Ac₂O. I have antimicrobial activity at 10 mg/mL.
 IT 2503-75-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of bactericidal chlorophenoxymethyleneoxadiazolines)
 RN 2503-75-5 HCAPLUS
 CN Acetic acid, (4-chlorophenoxy)-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



L58 ANSWER 4 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1997:277905 HCAPLUS
 DN 127:17543
 TI 2-Azetidinone: 2-aryl-1-(2',4',6'-trichlorophenoxyacetamido)-3-chloro-2-azetidinone
 AU Sorathiya, S. D.; Patel, V. B.; Parikh, A. R.
 CS Chem. Dep., Saurashtra Univ., Rajkot, India
 SO Journal of the Institution of Chemists (India) (1996), 68(6), 177-179
 CODEN: JOICA7; ISSN: 0020-3254
 PB Institution of Chemists (India)
 DT Journal
 LA English
 GI

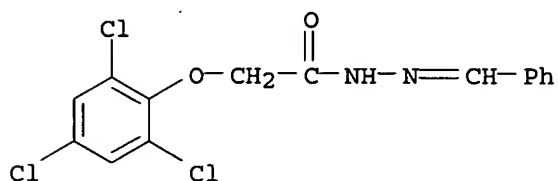


AB A series of 2-azetidinone derivs., I (R = Ph, 4-ClC₆H₄, 2-HOC₆H₄, etc.), bearing 2, 4, 6-trichlorophenoxyacetic acid hydrazide moiety have been synthesized and their antimicrobial activity studied.

IT 190588-44-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation, bactericidal, and fungicidal activity of (trichlorophenoxyacetamido)azetidinones)

RN 190588-44-4 HCAPLUS

CN Acetic acid, (2,4,6-trichlorophenoxy)-, (phenylmethylene)hydrazide (9CI)
 (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Kamaiya, T	1977	28		Spec Phbl Chem Soc	
Maffi, G	1959	14	76	Ed Sci	
Roger, D				US 39558974	

L58 ANSWER 5 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1996:607951 HCAPLUS

DN 125:301247

TI Synthesis and biological screening of substituted thymolylthiazolidinones and thymolylazetidinones

AU Vashi, B. S.; Shah, V. H.

CS Dep. Chem., Saurashtra Univ., Rajkot, 360 005, India

SO Journal of the Indian Chemical Society (1996), 73(9), 491-492

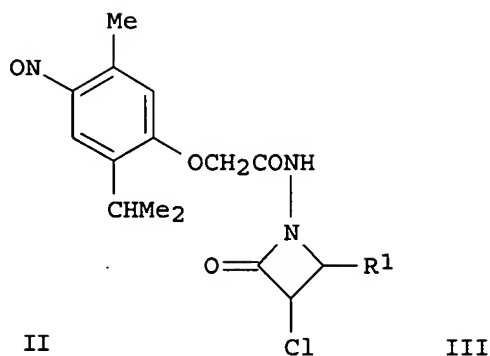
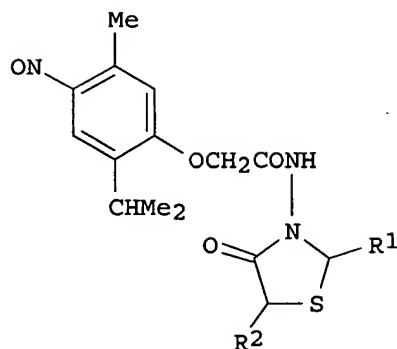
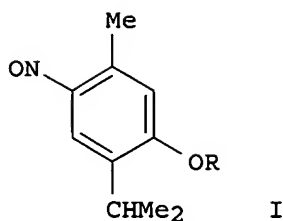
CODEN: JICSAH; ISSN: 0019-4522

PB Indian Chemical Society

DT Journal

LA English

GI



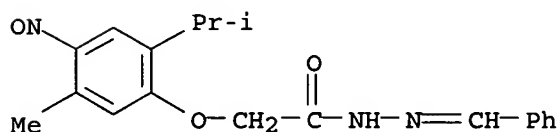
AB The present communication reports the synthesis of thymolyl derivs. of 4-thiazolidinones and azetidinones. The compds. have been tested for antibacterial and antifungal activity. P-Nitrosothymol (I; R = H) on condensation with Et chloroacetate, followed by the action of hydrazine hydrate yielded O-(hydrazinocarbonylmethyl)-p-nitrosothymol (I; R = CH₂CONHNH₂). The later on condensation with different aromatic aldehydes yielded the azomethine derivs. (I; R = CH₂CONHN:CHR₁, R₁ = Ph, 3-, 4-H₂NC₆H₄, 2-, 3-, 4-ClC₆H₄, 2,6-, 3,4-Cl₂C₆H₃, 2-, 3-, 4-HOC₆H₄, 4-MeOC₆H₄, 2-, 3-, 4-O₂NC₆H₄). Compds. I (R = CH₂CONHN:CHR₁) on cyclocondensation with thioglycolic and thiolactic acid yielded 4-thiazolidinones (II; R₂ = H, Me, resp.) and with thiomalic acid in presence of anhydrous zinc chloride yielded 4-thiazolidinones (II; R₂ = CH₂CO₂H). The four-membered β-lactam ring is introduced in I (R = CH₂CONHN:CHR₁) by cycloaddn. of chloroacetyl chloride in presence of triethylamine to yield 2-azetidinones III.

IT 182867-02-3P

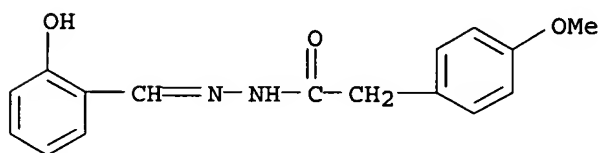
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
(synthesis and bioactivity of substituted thymolylthiazolidinones and -azetidinones)

RN 182867-02-3 HCAPLUS

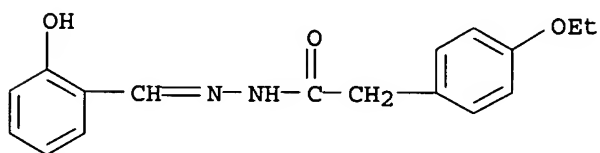
CN Acetic acid, [5-methyl-2-(1-methylethyl)-4-nitrosophenoxy]-, (phenylmethylen)hydrazide (9CI) (CA INDEX NAME)



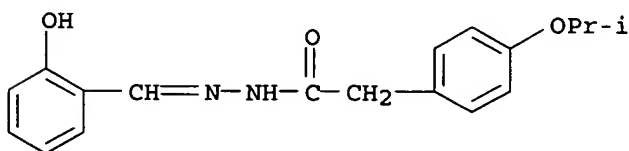
AN 1996:488265 HCAPLUS
 DN 125:212091
 TI Preparation and pharmacology of N-acylhydrazones
 AU Dilanyan, E. R.; Arsenyan, F. G.; Stepanyan, G. M.; Akopyan, L. G.
 CS Inst. Fine Organic Chem. Armenia, Yerevan, Armenia
 SO Khimiko-Farmatsevticheskii Zhurnal (1996), 30(6), 16-17
 CODEN: KHFZAN; ISSN: 0023-1134
 PB Izdatel'stvo Folium
 DT Journal
 LA Russian
 AB Treatment of aldehydes or ketones with 4-alkoxyphenylacetic acid hydrazides, gave the corresponding N-(4-alkoxyphenylacetyl)hydrazones. The hydrazones were tested for antitumor, antimicrobial, mutagenic, and anticonvulsant activities.
 IT 181428-40-0P 181428-47-7P 181428-53-5P
 181428-59-1P 181428-64-8P 181428-70-6P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation and pharmacol. of N-acylhydrazones)
 RN 181428-40-0 HCAPLUS
 CN Benzeneacetic acid, 4-methoxy-, [(2-hydroxyphenyl)methylene]hydrazide (9CI). (CA INDEX NAME)



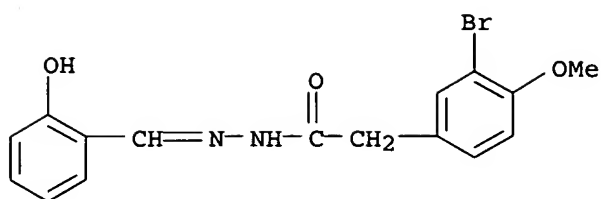
RN 181428-47-7 HCAPLUS
 CN Benzeneacetic acid, 4-ethoxy-, [(2-hydroxyphenyl)methylene]hydrazide (9CI)
 (CA INDEX NAME)



RN 181428-53-5 HCAPLUS
 CN Benzeneacetic acid, 4-(1-methylethoxy)-, [(2-hydroxyphenyl)methylene]hydrazide (9CI) (CA INDEX NAME)

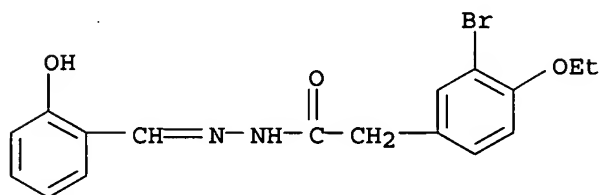


RN 181428-59-1 HCAPLUS
 CN Benzeneacetic acid, 3-bromo-4-methoxy-, [(2-hydroxyphenyl)methylene]hydrazide (9CI) (CA INDEX NAME)



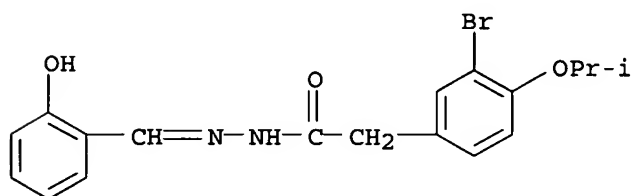
RN 181428-64-8 HCAPLUS

CN Benzeneacetic acid, 3-bromo-4-ethoxy-, [(2-hydroxyphenyl)methylene]hydrazide (9CI) (CA INDEX NAME)



RN 181428-70-6 HCAPLUS

CN Benzeneacetic acid, 3-bromo-4-(1-methylethoxy)-, [(2-hydroxyphenyl)methylene]hydrazide (9CI) (CA INDEX NAME)



L58 ANSWER 7 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1996:149553 HCAPLUS

DN 124:289433

TI Synthesis and antimicrobial activity of certain arylidene derivatives of 6-iodo-2-phenyl-3-(4-hydrazinocarbonylmethoxyphenyl)-4(3H)-quinazolinones

AU Aziza, M. A.; Ibrahim, M. K.; El-Hamde, S. G. Abd; Hakim, A. E.

CS Faculty Pharmacy, Al-Azhar University, Cairo, Egypt

SO Al-Azhar Journal of Pharmaceutical Sciences (1994), 14, 202-9

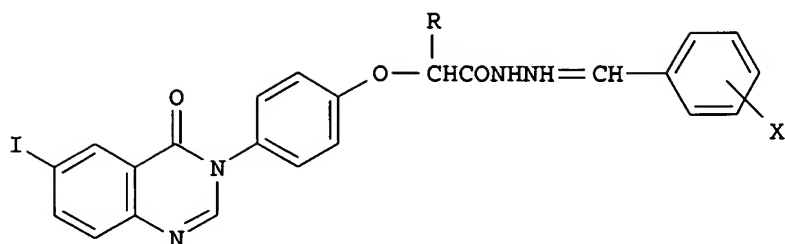
CODEN: AAJPFT; ISSN: 1110-1644

PB Al-Azhar University, Faculty of Pharmacy

DT Journal

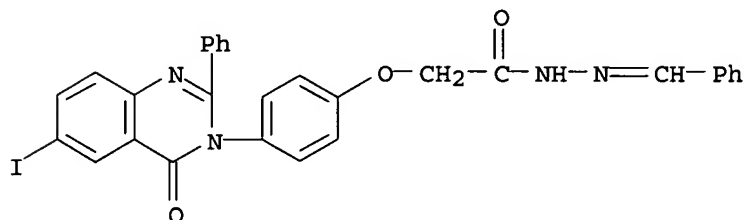
LA English

GI



I

- AB The synthesis of 4(3H)-quinazolinones I (R = H, Me, Et; X = H, 4-Me, 4-MeO, 2-, 3-, 4-Cl, 4-HO) was carried out. The antimicrobial screening has shown that some of these compds. were active against microorganisms. None were active against E. coli.
- IT 175851-66-8P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
 (preparation and bactericidal activity of iodophenylquinazolinones)
- RN 175851-66-8 HCAPLUS
- CN Acetic acid, [4-(6-iodo-4-oxo-2-phenyl-3(4H)-quinazolinyl)phenoxy]-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)

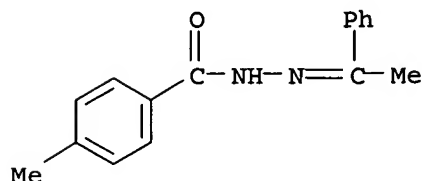


- L58 ANSWER 8 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
- AN 1996:123209 HCAPLUS
- DN 124:219420
- TI Structural modification of the primary amino group of anticonvulsant aryl semicarbazones
- AU Dimmock, J. R.; Puthucode, R. N.; Lo, M. S.; Quail, J. W.; Yang, J.; Stables, J. P.
- CS Coll. Pharmacy and Nutrition, Univ. Saskatchewan, Saskatoon, SK, Can.
- SO Pharmazie (1996), 51(2), 83-8
 CODEN: PHARAT; ISSN: 0031-7144
- PB Govi-Verlag Pharmazeutischer Verlag
- DT Journal
- LA English
- AB A number of arylsemicarbazones were shown previously to have significant anticonvulsant properties. The importance of the primary amino group in a series of compds. was determined by replacing it with other substituents. The amino group was not essential for anticonvulsant activity. However, its replacement by an aryl ring generally abolished the activity, while a terminal phenylamino function was better tolerated. Thus both the size of the group and its H-bonding capabilities appear to influence the bioactivity. Alteration of the O atom of the semicarbazones by isosteres did not enhance anticonvulsant properties.
- IT 130158-81-5P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use);

BIOL (Biological study); PREP (Preparation); USES (Uses)
(primary amino group modification of anticonvulsant arylsemicarbazones)

RN 130158-81-5 HCAPLUS

CN Benzoic acid, 4-methyl-, (1-phenylethylidene)hydrazide (9CI) (CA INDEX NAME)



L58 ANSWER 9 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1996:116243 HCAPLUS

DN 124:260935

TI Synthesis and antimicrobial activities of some new benzimidazoles, Part I

AU El-Sherief, H. A.; El-Ezbawy, S. R.; Mahmoud, A. M.; Sarhan, Abd El-Wareth A. O.

CS Faculty Science, Assiut University, Assiut, Egypt

SO Bulletin of the Faculty of Science, Assiut University, B: Chemistry (1995), 24(1), 111-23

CODEN: BFSAE6; ISSN: 1010-2671

PB Assiut University

DT Journal

LA English

AB Reaction of Et p-(2-benzimidazolyl)phenoxyacetate (1) with aromatic amines gave the corresponding acetanilides. Reaction of 1 with hydrazine hydrate gave the hydrazide, which reacted with aromatic aldehydes, acetylacetone, Et acetoacetate, CS2, etc. Antibacterial activity of several derivs. was determined

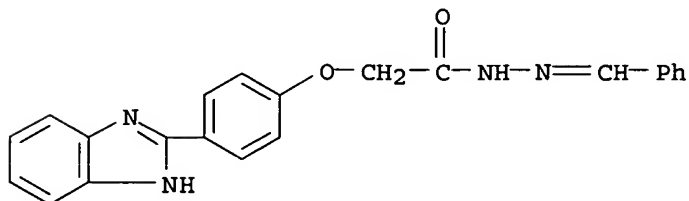
IT 175028-45-2P

RL: SPN (Synthetic preparation); PREP (Preparation)

(synthesis and antimicrobial activities of benzimidazole derivs.)

RN 175028-45-2 HCAPLUS

CN Acetic acid, [4-(1H-benzimidazol-2-yl)phenoxy]-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



L58 ANSWER 10 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1995:612183 HCAPLUS

DN 123:198653

TI Synthesis of some 1,3,4-oxadiazolines and thiazolidinones of expected antibacterial activity

AU Abbas, Safinaz E.; El Ansary, Soheir L.; Mikhael, Anwar N.

CS Faculty Pharmacy, Cairo University, Cairo, Egypt

SO Egyptian Journal of Pharmaceutical Sciences (1994), 35(1-6), 21-30

CODEN: EJPSBZ; ISSN: 0301-5068

PB National Information and Documentation Centre

DT Journal

LA English

AB Reaction of the acid hydrazide 4,3,5-ClMe₂C₆H₂OCH₂C(O)NHNH₂ with different carbonyl compds. gave the corresponding hydrazones 4,3,5-ClMe₂C₆H₂OCH₂C(O)NHN:CRR₁ [R = H, Me; R₁ = CH:CHPh, Me, (un)substituted Ph]. The oxadiazolines were obtained by refluxing the hydrazones with acetic anhydride. The thiazolidinones were achieved by the cyclocondensation of the hydrazones with mercaptoacetic acid. The antimicrobial activity was determined for eight representative compds. and some of them were active.

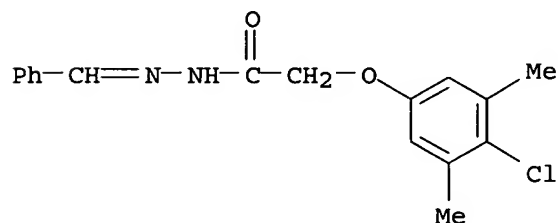
IT 167995-30-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(synthesis and antibacterial activity of oxadiazolines and thiazolidinones)

RN 167995-30-4 HCAPLUS

CN Acetic acid, (4-chloro-3,5-dimethylphenoxy)-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



L58 ANSWER 11 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1995:96219 HCAPLUS

DN 122:105731

TI Synthesis of some bis-2-azetidinones, bis-4-thiazolidinones and their pharmacological activity

AU Kudari, S. M.; Sajjanshetty, A. S.

CS Dept. of Chemistry, Gulbarga Univ., Karnataka, 585 106, India

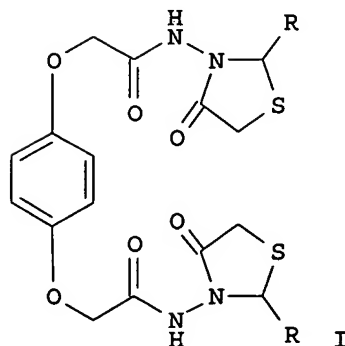
SO Oriental Journal of Chemistry (1994), 10(1), 15-18

CODEN: OJCHEG; ISSN: 0970-020X

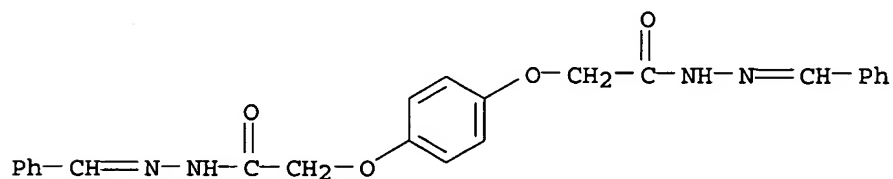
DT Journal

LA English

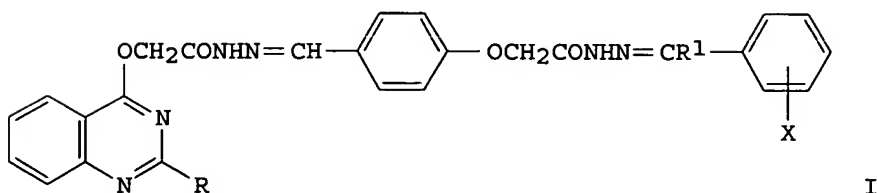
GI



- AB Condensation of 1,4-bis(hydrazinocarbonylmethoxy)benzene with aromatic aldehydes gave 1,4-bis(arylhydrazinocarbonylmethoxy)benzenes in good yields. These on treatment with chloroacetyl chloride, phenylacetyl chloride and thioglycolic acid gave 1,4-bis[[3-chloro-4-aryl-2-oxo-1-azetidiny]amino]ethoxy]benzenes and 1,4-bis[[4-oxo-3-thiazolidinyl]amino]ethoxy]benzenes I [R = (un)substituted phenyl]. Example compds. are 2,2'-[1,4-phenylenebis(oxy)]bis[N-(1-azetidiny]acetetamides] and 2,2'-[1,4-phenylenebis(oxy)]bis[N-(3-thiazolidinyl)acetamides]. I were evaluated for diuretic activity against standard drug acetazolamide.
- IT 160510-79-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of diuretic [phenylenebis(oxy)]bis[N-azetidiny]acetamide [phenylenebis(oxy)]bis[N-thiazolidiny]acetamide])
- RN 160510-79-2 HCAPLUS
- CN Acetic acid, 2,2'-[1,4-phenylenebis(oxy)]bis-,
bis[(phenylmethylene)hydrazide] (9CI) (CA INDEX NAME)



- L58 ANSWER 12 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
- AN 1994:508684 HCAPLUS
- DN 121:108684
- TI Synthesis of quinazolinyl-benzylidene methyl benzylidene hydrazides as CNS active and antiinflammatory agents
- AU Mohan, Rajiv Ravindra
- CS Dep. Chem., R.B.S. Coll., Agra, India
- SO Journal of Indian Council of Chemists (1993), 9(1), 40-4
CODEN: JICCE7; ISSN: 0971-5037
- DT Journal
- LA English
- GI



- AB A series of twenty-four new hydrazides [I, R = Me, Et; R2R2 = CR1C6H4X (R1 = H, Me; X = 2-OH, 4-NH2, etc.)] have been synthesized by the condensation of I (same R; R2 = H) with XC6H4COR1. All the compds. were found to be nontoxic and CNS stimulants (24-53%) or depressants (28-48%). Most of the tested compds. showed significant carrageenin induced mice paw edema

(20-48%) antiinflammatory activity.

IT 156601-30-8P 156601-42-2P

RL: SPN (Synthetic preparation); PREP (Preparation)

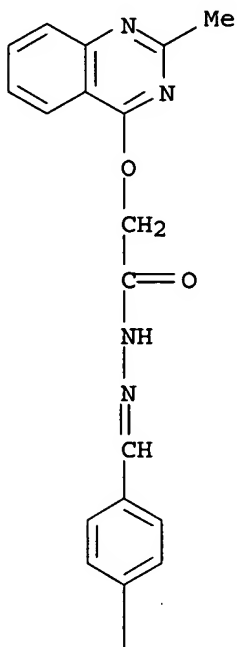
(preparation and CNS activity and antiinflammatory activity of)

RN 156601-30-8 HCAPLUS

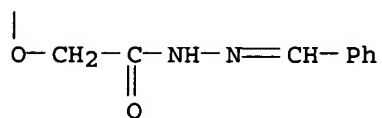
CN Acetic acid, [(2-methyl-4-quinazolinyl)oxy]-, [[4-[2-oxo-2-[(phenylmethylene)hydrazino]ethoxy]phenyl]methylene]hydrazide (9CI) (CA

INDEX NAME)

PAGE 1-A



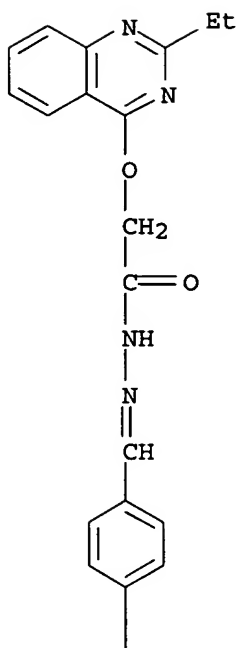
PAGE 2-A



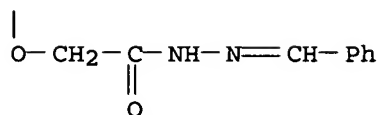
RN 156601-42-2 HCAPLUS

CN Acetic acid, [(2-ethyl-4-quinazolinyl)oxy]-, [[4-[2-oxo-2-[(phenylmethylene)hydrazino]ethoxy]phenyl]methylene]hydrazide (9CI) (CA INDEX NAME)

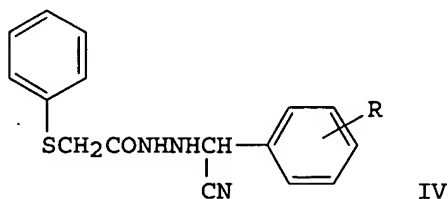
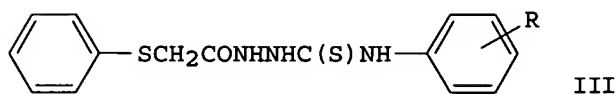
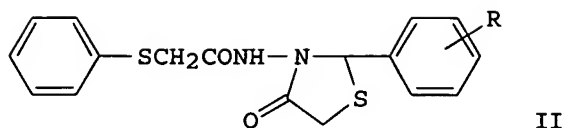
PAGE 1-A



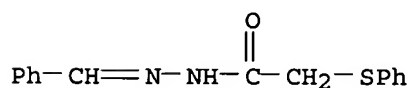
PAGE 2-A



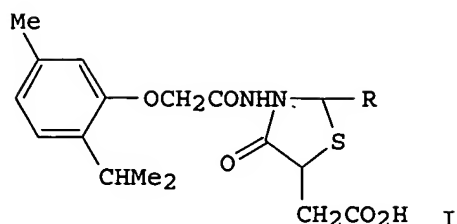
L58 ANSWER 13 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1994:106490 HCAPLUS
DN 120:106490
TI Studies on synthesis and antimicrobial evaluation of some new thiophenol derivatives
AU Bhatt, K. N.; Dave, A. M.; Desai, N. C.; Undavia, N. K.; Trivedi, P. B.
CS Univ. Dep. Chem., Bhavnagar Univ., Bhavnagar, 364 002, India
SO Journal of the Indian Chemical Society (1992), 69(11), 785-7
CODEN: JICSAH; ISSN: 0019-4522
DT Journal
LA English
OS CASREACT 120:106490
GI



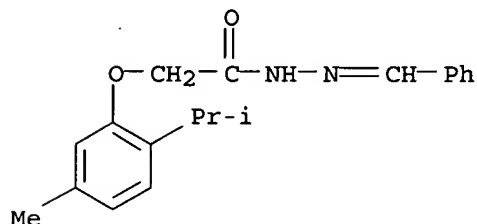
- AB Condensation reactions of $\text{PhSCH}_2\text{CONHNH}_2$ (I) with aromatic aldehydes gave the Schiff base derivative which on cycloaddn. with mercaptoacetic acid in dioxane gave 2-aryl-3-(phenylthioacetamido)-4-thiazolidinones [II; R = H, 2-HO, 3,4-(MeO)₂, etc.]. 4-(Aryl)-1-phenylthioacetyl-3-thiosemicarbazides III (R = H, 2-, 3-, 4-Me, 2-, 3-, 4-MeO, 2-, 3-, 4-Cl) were prepared by reaction of aryl isothiocyanates with I in boiling EtOH. I easily underwent reaction with aromatic cyanohydrins to give α -(phenylthioacetylhydrazino)arylacetonitriles IV [R = H, 3-NO₂, 4-Me, 4-OH, 3,4-(MeO)₂, etc.]. Derivs. II-IV exhibited moderate antibacterial activity.
- IT 152489-26-4P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and cycloaddn. with mercaptoacetic acid)
- RN 152489-26-4 HCAPLUS
- CN Acetic acid, (phenylthio)-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



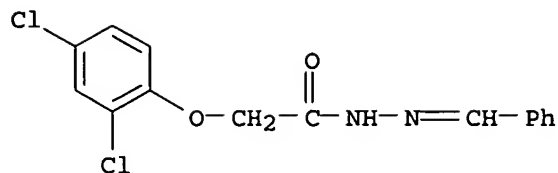
- L58 ANSWER 14 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
- AN 1993:560167 HCAPLUS
- DN 119:160167
- TI 4-Thiazolidinones. Part II: 2-Aryl-3-(2'-isopropyl-5'-methylphenoxyacetyl-amino)-5-carboxymethyl-4-thiazolidinones
- AU Roda, K. P.; Vansdadia, R. N.; Parekh, Hansa
- CS Chem. Dep., Saurashtra Univ., Rajkot, 360 005, India
- SO Journal of the Institution of Chemists (India) (1992), 64(3), 109-111
- CODEN: JOICA7; ISSN: 0020-3254
- DT Journal
- LA English
- GI



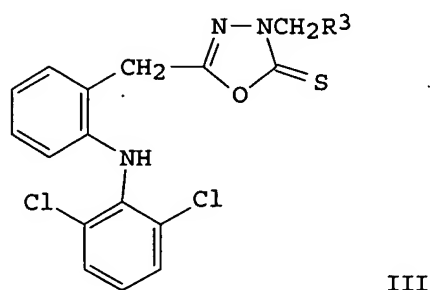
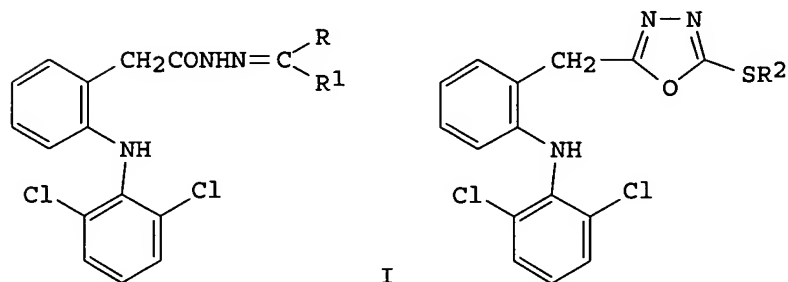
- AB 4-Thiazolidinones I (R = aryl) were prepared by condensation of 2-isopropyl-5-methylphenoxyacetic acid hydrazide, prepared from thymol acetate and N₂H₄, with RCHO to give the corresponding Schiff bases which were cyclocondensed with HO₂CCH(SH)CH₂CO₂H. All I were active against *Salmonella typhosa* and had some activity against other Gram-pos. and Gram-neg. bacteria.
- IT 111303-67-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and cyclocondensation with thiomalic acid, thiazolidinones from)
- RN 111303-67-4 HCAPLUS
- CN Acetic acid, [5-methyl-2-(1-methylethyl)phenoxy]-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



- L58 ANSWER 15 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
- AN 1993:472327 HCAPLUS
- DN 119:72327
- TI Synthesis and antibacterial study of metal complex of 1-(2,4-dichlorophenoxyacetyl)-2-(2-hydroxybenzylidene/naphthylidene)]hydrazine
- AU Oza, S. P.; Dave, M. P.; Patel, R. S.
- CS Vilco Lab. (P) Ltd., Bhavnagar, India
- SO Indian Drugs (1993), 30(1), 48-52
CODEN: INDRBA; ISSN: 0019-462X
- DT Journal
- LA English
- AB The title ligands 2,4-Cl₂C₆H₃OCH₂CONHN:CR (R = o-HOC₆H₄, 2-hydroxynaphthyl) were prepared via 4 steps starting from 2,4-Cl₂C₆H₃OH. Their Cu, Co, Ni and Zn complexes were prepared Test data were given for the antibacterial properties of the ligands and metal complexes against *S. aureus* and *E. coli*.
- IT 2496-37-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with metal salts)
- RN 2496-37-9 HCAPLUS
- CN Acetic acid, (2,4-dichlorophenoxy)-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



L58 ANSWER 16 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1993:101881 HCAPLUS
 DN 118:101881
 TI Synthesis of certain 1,3,4-oxadiazole derivatives of expected
 antiinflammatory activity
 AU Abbas, S. E.; Abou-Youssef, H. E.; El-Taliawi, G. M.; Hassan, A. B.
 CS Fac. Pharm., Cairo Univ., Cairo, Egypt
 SO Egyptian Journal of Pharmaceutical Sciences (1991), 32(3-4),
 515-27
 CODEN: EJPSBZ; ISSN: 0301-5068
 DT Journal
 LA English
 OS CASREACT 118:101881
 GI

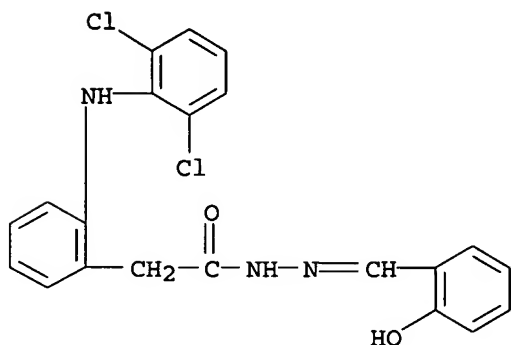


AB The synthesis of certain diclofenac acid hydrazones I [R = H, R1 =
 CH:CHPh, 4-MeOC6H4, 2-HOC6H4, 4-HO-3-MeOC6H3, 4-Me2NC6H4; R = Me, R1 = Me,
 Et, Ph, 4-MeC6H4, 4-BrC6H4; RR1 = (CH2)5] is described. The
 Δ^2 -1,3,4-oxadiazoline-5-thione II (R2 = H) is prepared by reacting
 diclofenac acid hydrazide with carbon disulfide in ethanolic potassium
 hydroxide. Some thioethers, II (R2 = Me, Et, allyl, Bu, CH2CONHPh,
 CH2CONHC4H4OMe-4), and Mannich bases, III (R3 = pyrrolidinyl morpholinyl,
 N-methylaniline, dibenzylamino, dimethylamino, diethylamino), were prepared
 from the 1,3,4-oxadiazole derivative II (R2 = H) and tested for their
 analgetic, antipyretic, and antiinflammatory activities.
 IT 145262-72-2

RL: RCT (Reactant); RACT (Reactant or reagent)
(antiinflammatory, analgesic, and antipyretic activity of)

RN 145262-72-2 HCAPLUS

CN Benzeneacetic acid, 2-[(2,6-dichlorophenyl)amino]-, [(2-hydroxyphenyl)methylene]hydrazide (9CI) (CA INDEX NAME)



L58 ANSWER 17 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1992:106155 HCAPLUS

DN 116:106155

TI Synthesis of thiazolidine-containing benzylidene/methylbenzylidenehydrazides and their Mannich bases as CNS active and antiinflammatory agents

AU Mohan, Rajiv Ravindra

CS Dep. Chem., RBS Coll., Agra, 282 002, India

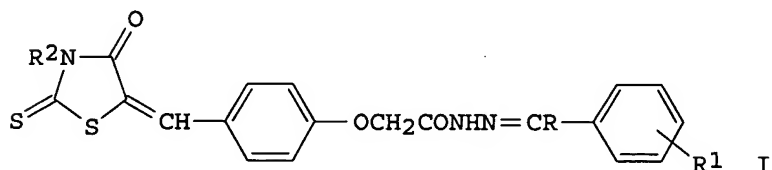
SO Indian Drugs (1991), 29(3), 120-2

CODEN: INDRBA; ISSN: 0019-462X

DT Journal

LA English

GI



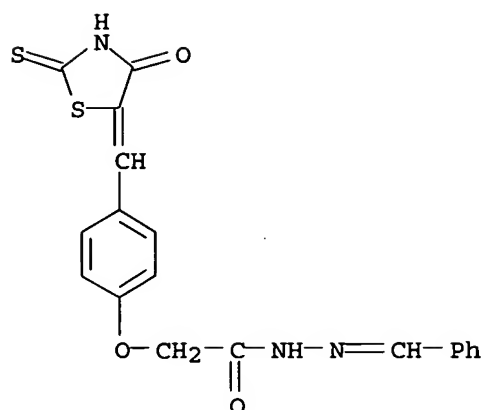
AB Title compds. I (R = H, Me; R1 = H, 2-OH, 4-OH, 4-OMe, 4-Me, etc.; R2 = H) were prepared from [[α-(5-oxo-2-thioxo-4-thiazolidinyldene)tolyl]oxy]acetic acid hydrazide and benzaldehydes or acetophenones and were subjected to Mannich reactions with HCHO and anilines to give I (same R, R1; R2 = substituted anilinomethyl). Several of the compds. showed CNS activity and were muscle relaxants and antiinflammants.

IT 139298-28-5P

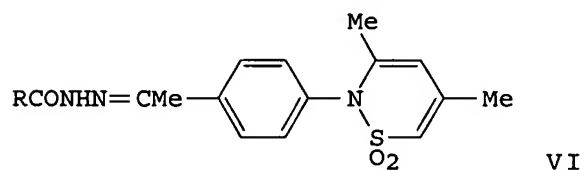
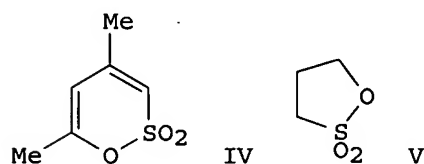
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation, Mannich reaction and biol. activity of)

RN 139298-28-5 HCAPLUS

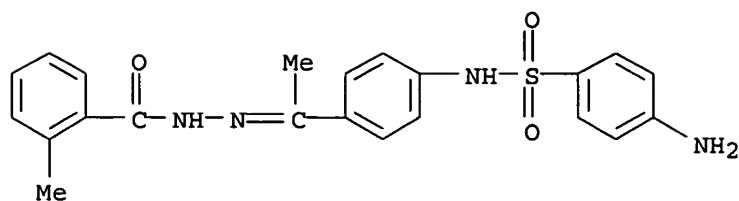
CN Acetic acid, [4-[(4-oxo-2-thioxo-5-thiazolidinyldene)methyl]phenoxy]-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



L58 ANSWER 18 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1992:41029 HCAPLUS
 DN 116:41029
 TI Some sulfonamide derivatives and their antimicrobial activity
 AU Ismail, I. Imam; Mandour, A.; Abd El-Aleem, A. H.
 CS Fac. Sci., Menoufia Univ., Egypt
 SO Delta Journal of Science (1989), 13(1), 185-95
 CODEN: DJSCES; ISSN: 1012-5965
 DT Journal
 LA English
 GI

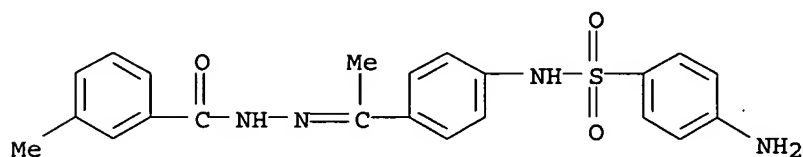


AB Acid hydrazides RCONHNH₂ (R = Ph, CH₂Ph, 2-MeC₆H₄, 3-MeC₆H₄, 4-O₂NC₆H₄, 4-pyridyl) react with 4-H₂NC₆H₄COME to give RCONHN:CMec₆H₄NHR₁-4 (I, R₁ = H). I (R₁ = H) condense with ClSO₂C₆H₄NHCOME-4 to give I (R₁ = SO₂C₆H₄NHCOME-4) (II) which undergo hydrolysis to give I (R₁ = SO₂C₆H₄NH₂) (III). I (R₁ = H) also react with sultones IV and V to give cyclic sulfonamides VI and I [R₁ = (CH₂)₃SO₃H] (VII), resp. Bactericidal and fungicidal activities of I (R₁ = H), II, III, VI, and VII were measured.
 IT 138225-27-1P 138225-28-2P 138225-33-9P
 138225-34-0P 138225-39-5P 138225-40-8P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation, bactericidal, and fungicidal activity of)
 RN 138225-27-1 HCAPLUS
 CN Benzoic acid, 2-methyl-, [1-[4-[[[4-aminophenyl)sulfonyl]amino]phenyl]ethy
 lidene]hydrazide (9CI) (CA INDEX NAME)



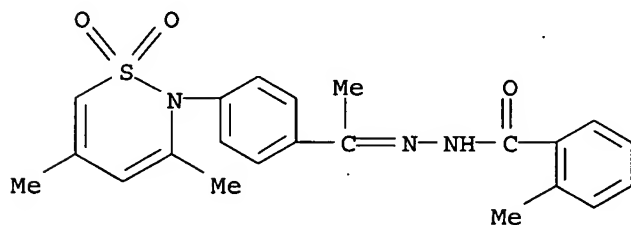
RN 138225-28-2 HCAPLUS

CN Benzoic acid, 3-methyl-, [1-[4-[(4-aminophenyl)sulfonyl]amino]phenyl]ethylidene]hydrazide (9CI) (CA INDEX NAME)



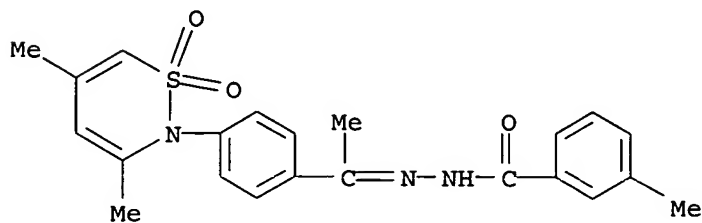
RN 138225-33-9 HCAPLUS

CN Benzoic acid, 2-methyl-, [1-[4-(3,5-dimethyl-1,1-dioxido-2H-1,2-thiazin-2-yl)phenyl]ethylidene]hydrazide (9CI) (CA INDEX NAME)



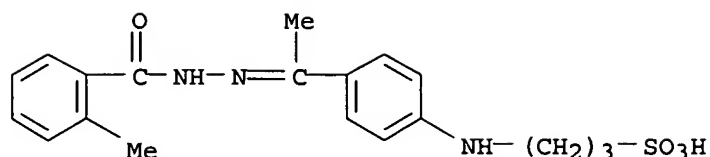
RN 138225-34-0 HCAPLUS

CN Benzoic acid, 3-methyl-, [1-[4-(3,5-dimethyl-1,1-dioxido-2H-1,2-thiazin-2-yl)phenyl]ethylidene]hydrazide (9CI) (CA INDEX NAME)



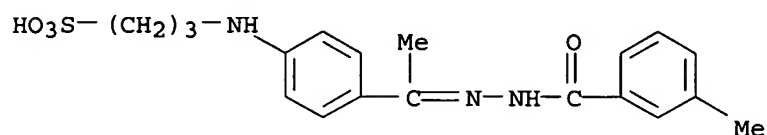
RN 138225-39-5 HCAPLUS

CN Benzoic acid, 2-methyl-, [1-[4-[(3-sulfopropyl)amino]phenyl]ethylidene]hydrazide (9CI) (CA INDEX NAME)



RN 138225-40-8 HCAPLUS

CN Benzoic acid, 3-methyl-, [1-[4-[(3-sulfopropyl)amino]phenyl]ethylidene]hydrazide (9CI) (CA INDEX NAME)

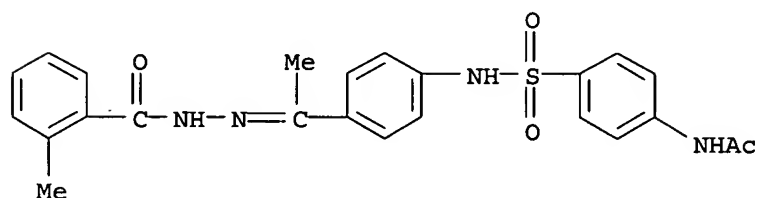


IT 138225-21-5P 138225-22-6P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation, hydrolysis, fungicidal, and bactericidal activity of)

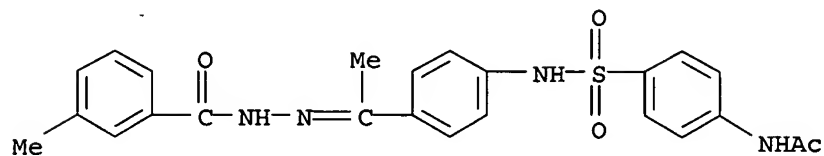
RN 138225-21-5 HCAPLUS

CN Benzoic acid, 2-methyl-, [1-[4-[[4-(acetamino)phenyl]sulfonyl]amino]phenyl]ethylidene]hydrazide (9CI) (CA INDEX NAME)



RN 138225-22-6 HCAPLUS

CN Benzoic acid, 3-methyl-, [1-[4-[[4-(acetamino)phenyl]sulfonyl]amino]phenyl]ethylidene]hydrazide (9CI) (CA INDEX NAME)



L58 ANSWER 19 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1991:206680 HCAPLUS

DN 114:206680

TI Antihypertensive hydrazidones: study of acylated 2-chlorobenzylidenehydrazines

AU Galons, H.; Cave, C.; Miocque, M.; Rinjard, P.; Tran, G.; Binet, P.

CS Lab. Chim. Org., Fac. Pharm., Chatenay-Malabry, F 92290, Fr.

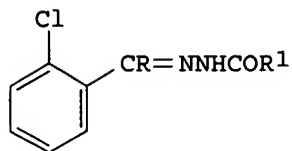
SO European Journal of Medicinal Chemistry (1990), 25(9), 785-8

CODEN: EJMCA5; ISSN: 0223-5234

DT Journal

LA French

OS CASREACT 114:206680
GI



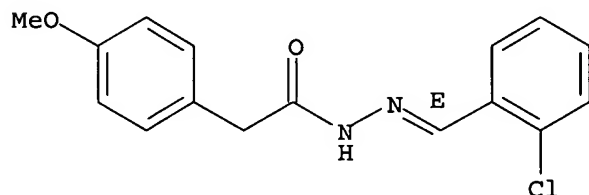
AB Fifty-five hydrazones I (R = H, Me, Et, Bu, CH₂OH; R₁ = CMe₂OH, 3,4,5-trimethoxyphenyl, CONH₂, 3-pyridyl, etc.) were prepared from the carbonyl compds. and the acylhydrazines. Antihypertensive min. dosage for I in rats are tabulated.

IT 133661-81-1P 133662-86-9P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation and antihypertensive activity of)

RN 133661-81-1 HCAPLUS

CN Benzeneacetic acid, 4-methoxy-, [(2-chlorophenyl)methylene]hydrazide, (E)-(9CI) (CA INDEX NAME)

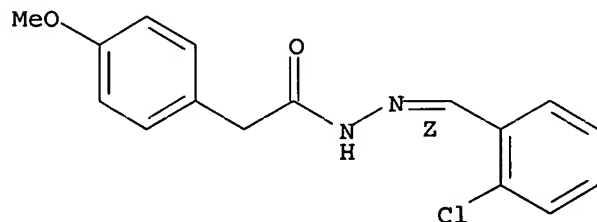
Double bond geometry as shown.



RN 133662-86-9 HCAPLUS

CN Benzeneacetic acid, 4-methoxy-, [(2-chlorophenyl)methylene]hydrazide, (Z)-(9CI) (CA INDEX NAME)

Double bond geometry as shown.



L58 ANSWER 20 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

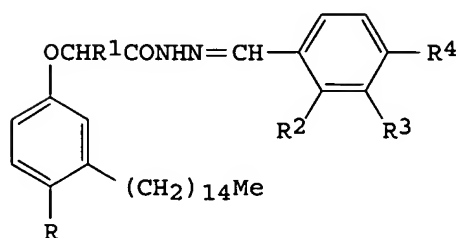
AN 1991:143256 HCAPLUS

DN 114:143256

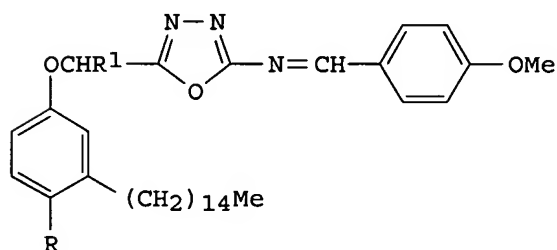
TI Synthesis and antiinflammatory activity of benzal-3-pentadecylaryloxyalkylcarboxylic acid hydrazides and 2-benzalamino-5-(3'-pentadecylaryloxyalkyl)-1,3,4-oxadiazoles

AU Ramalingam, T.; Sattur, P. B.

CS Indian Inst. Chem. Technol., Hyderabad, 500 007, India
 SO European Journal of Medicinal Chemistry (1990), 25(6), 541-4
 CODEN: EJMCA5; ISSN: 0223-5234
 DT Journal
 LA English
 GI



I



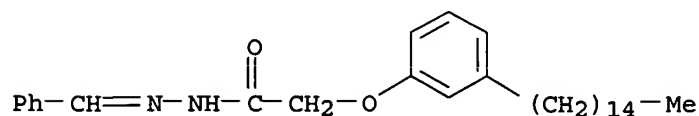
II

AB Hydrazides I (R = H, Cl; R1 = H, Me; R2 = H, OH, NO2, Cl; R3 = H, MeO; R4 = H, Cl, MeO, OCH2CO2H) and oxadiazoles II (R = H, Cl; R1 = H, Me) were prepared in 48-96% yields by, e.g., condensing m-Me(CH2)14C6H4OCH2CONHNH2 with BzH, and their antiinflammatory activity tested by the carrageenin-induced rat paw edema method.

IT 132663-55-9P 132663-61-7P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
 (preparation and antiinflammatory activity of)

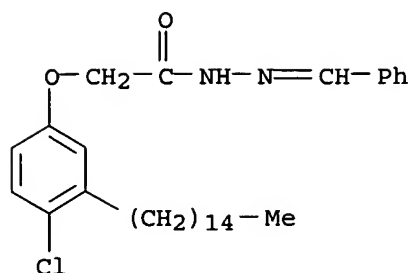
RN 132663-55-9 HCAPLUS

CN Acetic acid, (3-pentadecylphenoxy)-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)

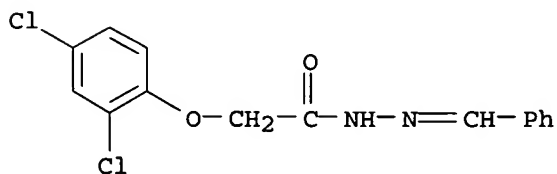


RN 132663-61-7 HCAPLUS

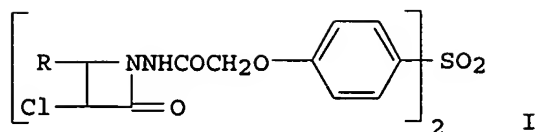
CN Acetic acid, (4-chloro-3-pentadecylphenoxy)-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



L58 ANSWER 21 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1991:70043 HCAPLUS
 DN 114:70043
 TI Stoichiometric stability constants of complexes with bioactive hydrazide-type ligands
 AU Tschwatschal, Frank; Dietze, Frank; Seidel, Andreas; Thomas, Philipp
 CS Sect. Chem., Karl-Mark-Univ., Leipzig, DDR-7010, Ger. Dem. Rep.
 SO Zeitschrift fuer Chemie (1990), 30(9), 331-2
 CODEN: ZECEAL; ISSN: 0044-2402
 DT Journal
 LA German
 AB Complexation of Cu²⁺, Ni²⁺, Zn²⁺, Co²⁺, Mn²⁺, or Pb²⁺ with MeSC(S)NHN:CRR1 or 2,4-C₆H₃Cl₂OCH₂C(O)NHN:CRR1 (R = H, Me; R1 = Ph, 2-pyridyl, 2-furyl, 2-hydroxyphenyl, COOH) was studied pH-metrically and spectrophotometrically at 298 K in 75 volume % aqueous dioxane (ionic strength 0.1 (Me₄NNO₃)). Successive stability consts. were calculated by using the MINIUAD (P. Gaus et al. 1976) program.
 IT 2496-37-9
 RL: PEP (Physical, engineering or chemical process); PROC (Process) (ionization of, in aqueous dioxane)
 RN 2496-37-9 HCAPLUS
 CN Acetic acid, (2,4-dichlorophenoxy)-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



L58 ANSWER 22 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1990:590989 HCAPLUS
 DN 113:190989
 TI Studies on 2-azetidinones. Part-I. Preparation and antimicrobial activity of p,p'-bis(3-chloro-4-aryl-2-azetidinon-1-ylcarbamoylmethoxy)diphenyl sulfones
 AU Vansdadia, R. N.; Roda, K. P.; Parekh, Hansa
 CS Dep. Chem., Saurashtra Univ., Rajkot, 360 005, India
 SO Journal of the Indian Chemical Society (1989), 66(1), 56-8
 CODEN: JICSAH; ISSN: 0019-4522
 DT Journal
 LA English
 OS CASREACT 113:190989
 GI



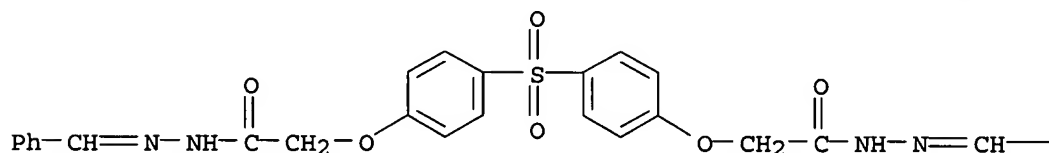
AB Azetidinones I (R = Ph, substituted Ph) were prepared by treatment of (4-EtO₂CCH₂OC₆H₄)₂SO₂ with N₂H₄, treatment of the dihydrazide with RCHO, and cyclization of the dihydrazones with ClCH₂Cl. Maximum fungicidal activity (≤20 mm inhibition zone) was observed in I [R = 4-ClC₆H₄, 3,2-MeO(HO)C₆H₃, 4-HOC₆H₄] against *Aspergillus niger* and in I (R = 2-O₂NC₆H₄) against *Saccharomyces cerevisiae*. I [R = 2,6-Cl₂C₆H₃, 3,2-MeO(OH)C₆H₃] had maximum activity against *Serratia marcescens*.

IT 123798-85-6P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and cycloaddn. of, with chloroacetyl chloride)

RN 123798-85-6 HCAPLUS

CN Acetic acid, 2,2'-[sulfonylbis(4,1-phenyleneoxy)]bis-, bis[(phenylmethylene)hydrazide] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

— Ph

L58 ANSWER 23 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1990:77018 HCAPLUS

DN 112:77018

TI Studies on 4-thiazolidinones. Part IX. Preparation and antimicrobial activity of p,p'-bis(2-aryl-5H/methyl-4-thiazolidinon-3-ylmethoxy)diphenyl sulfones

AU Vansdadia, R. N.; Roda, K. P.; Parekh, Hansa

CS Dep. Chem., Saurashtra Univ., Rajkot, 360 005, India

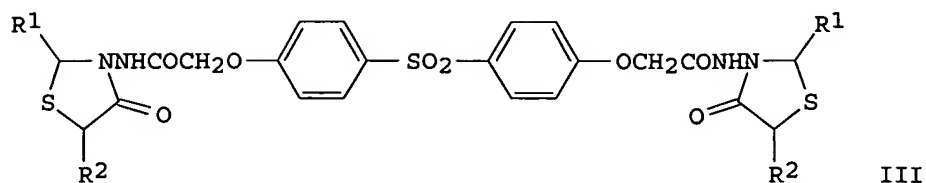
SO Journal of the Indian Chemical Society (1989), 66(2), 113-15
 CODEN: JICSAH; ISSN: 0019-4522

DT Journal

LA English

OS CASREACT 112:77018

GI



AB Hydrazinolysis of $\text{O}_2\text{S}(\text{C}_6\text{H}_4\text{OCH}_2\text{COR}-4)_2$ (I, R = OEt) in EtOH gave 87% I (R = NHNH_2) which on condensation with R_1CHO [R_1 = (un)substituted phenyl] gave 59-80% Schiff bases I (R = NHN:CHR_1) (II). Cyclization of II with $\text{HSCHR}_2\text{CO}_2\text{H}$ (R_2 = H, Me) gave 59-85% title compds. III.

IT 123798-85-6P

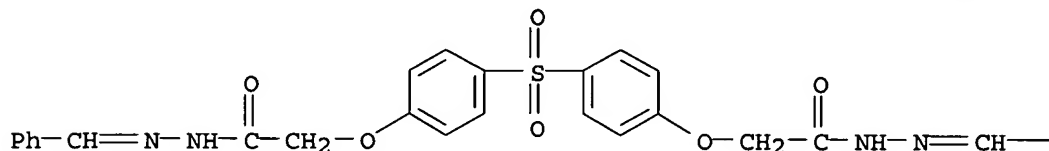
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and cyclocondensation of, with thioglycolic or thiolactic acids, thiazolidinone derivs. by)

RN 123798-85-6 HCAPLUS

CN Acetic acid, 2,2'-[sulfonylbis(4,1-phenyleneoxy)]bis-, bis[(phenylmethylene)hydrazide] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

— Ph

L58 ANSWER 24 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1989:632632 HCAPLUS

DN 111:232632

TI 4-Thiazolidinones. Part VII. Preparation and antimicrobial activity of p,p'-bis(2-aryl-5-carboxymethyl-4-thiazolidinon-3-ylcarbamoylmethoxy)diphenyl sulfones

AU Vansdadia, R. N.; Roda, K. P.; Parekh, Hansa

CS Dep. Chem., Saurashtra Univ., Rajkot, 360 005, India

SO Journal of the Institution of Chemists (India) (1988), 60(5), 191-3

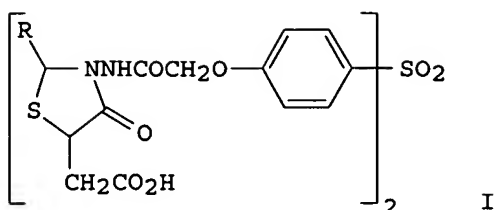
CODEN: JOICA7; ISSN: 0020-3254

DT Journal

LA English

OS CASREACT 111:232632

GI



AB Twenty title compds. I (R = Ph, substituted Ph) were prepared by the cyclocondensation of 4-[RCH:NNHCOCH2OC6H4]2SO2 with thiomalic acid. I were tested for antimicrobial activity against Staphylococcus aureus, Staphylococcus citreus, Escherichia coli, Marcsane serratia, Saccharomyces cerevisiae, and Aspergillus niger and showed good activity.

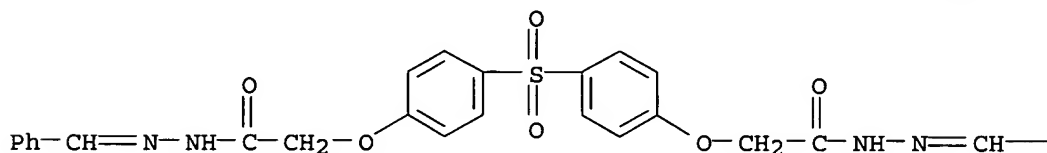
IT 123798-85-6P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and cyclocondensation reaction with thiomalic acid)

RN 123798-85-6 HCAPLUS

CN Acetic acid, 2,2'-[sulfonylbis(4,1-phenyleneoxy)]bis-,
bis[(phenylmethylene)hydrazide] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

— Ph

L58 ANSWER 25 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1989:497182 HCAPLUS

DN 111:97182

TI New 4-quinazolinones as antibacterial agents

AU Sakr, S. M.; El-Sadek, M.; Al-Ashmawi, M. I.

CS Fac. Pharm., Zagazig Univ., Egypt

SO Egyptian Journal of Pharmaceutical Sciences (1988), 29(1-4),
243-50

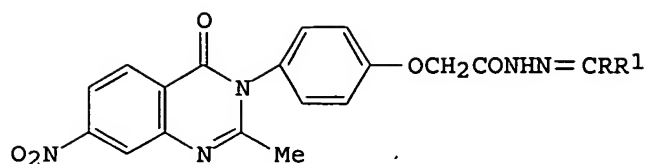
CODEN: EJPSBZ; ISSN: 0301-5068

DT Journal

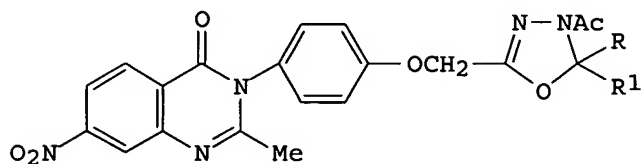
LA English

OS CASREACT 111:97182

GI



I



II

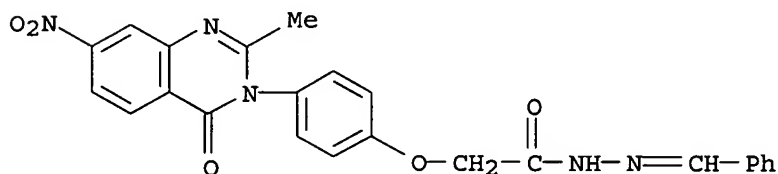
AB The [(hydrazinocarbonylmethoxy)phenyl]quinazolinones I [R = R1 = Me, R = H, Me, R1 = (un)substituted phenyl] were prepared by treating 3-(4-hydroxyphenyl)-2-methyl-7-nitro-4(3H)-quinazolinone with ClCH2CO2Et followed by H2NNH2.H2O and then RCOR1. Some I were cyclized by treatment with Ac2O to give the oxadiazole derivs. II. Some I and II were screened for antibacterial activity.

IT 120984-92-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and intramol. cyclization of)

RN 120984-92-1 HCAPLUS

CN Acetic acid, [4-(2-methyl-7-nitro-4-oxo-3(4H)-quinazolinyl)phenoxy]-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



L58 ANSWER 26 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1987:119744 HCAPLUS

DN 106:119744

TI Synthesis of some important 4-thiazolidinones as potential tuberculostatic and antibacterial agents. Part I

AU Shah, S. R.; Gol, D. D.; Shah, S. J.; Thaker, K. A.

CS Dep. Chem., Bhavnagar Univ., Bhavnagar, 364 002, India

SO Journal of the Institution of Chemists (India) (1986), 58(1), 10-12

CODEN: JOICA7; ISSN: 0020-3254

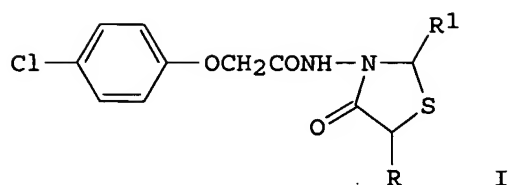
DT Journal

LA English

OS CASREACT 106:119744

GI

}



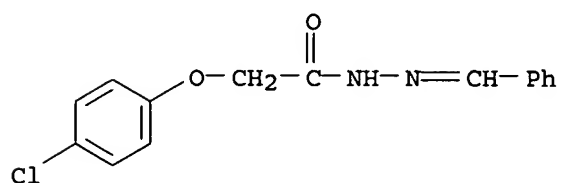
AB Thiazolidinones I (R = H, CH₂CO₂H; R₁ = Ph, substituted Ph) were preped. by the cyclocondensation of 4-ClC₆H₄OCH₂CONHN:CHR₁ with RCH(SH)CO₂H. I showed tuberculostatic activity in vitro, at various concns.; I (R₁ = 2-ClC₆H₄) were most active. They showed little or moderate antibacterial activity at high concns.

IT 2503-75-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and cyclocondensation with mercapto acids)

RN 2503-75-5 HCAPLUS

CN Acetic acid, (4-chlorophenoxy)-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



L58 ANSWER 27 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1987:102148 HCAPLUS

DN 106:102148

TI Synthesis of some newer 4-(3-methyl-5-oxo-4-pyrazolidinylidenemethyl)phenoxyacetic acid benzylidenehydrazides and α-methylbenzylidenehydrazides as CNS active and antiinflammatory agents

AU Mohan, Rajiv Ravindra; Agarwal, Chapla; Misra, V. S.

CS Dep. Chem., Univ. Lucknow, Lucknow, 226 007, India

SO Indian Journal of Chemistry, Section B: Organic Chemistry Including Medicinal Chemistry (1986), 25B(3), 339-41

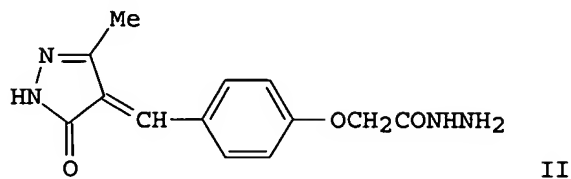
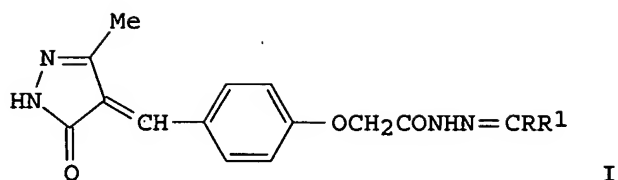
CODEN: IJSBDB; ISSN: 0376-4699

DT Journal

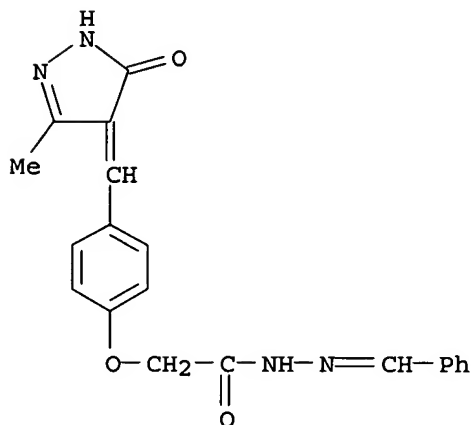
LA English

OS CASREACT 106:102148

GI



- AB The title compds. I (R = H, Me; R1 = Ph, substituted phenyl) were prepared by condensation of hydrazides II with RCOR2. II was prepared by condensation of 3-methyl-5-oxopyrazole with p-OHCC6H4OCH2CO2Et followed by treatment with H2NNH2.H2O. I had central nervous systems stimulant or depressant activity and gave 4-23% protection against carrageenin-induced mice paw edema.
- IT **107044-90-6P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and central nervous system and antiinflammatory activity of)
- RN 107044-90-6 HCAPLUS
- CN Acetic acid, [4-[(1,5-dihydro-3-methyl-5-oxo-4H-pyrazol-4-ylidene)methyl]phenoxy]-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



- L58 ANSWER 28 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
- AN 1986:549243 HCAPLUS
- DN 105:149243
- TI Preparation of protein conjugates via intermolecular hydrazone linkage
- AU King, Te Piao; Zhao, Shu Wei; Lam, Terence
- CS Rockefeller Univ., New York, NY, 10021-6399, USA
- SO Biochemistry (1986), 25(19), 5774-9
 CODEN: BICHAW; ISSN: 0006-2960
- DT Journal
- LA English
- AB Proteins can be modified at their amino groups under gentle conditions to produce derivs. containing an average of 3-6 aryl aldehyde or acyl hydrazide

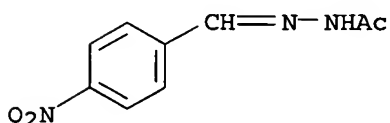
groups. These 2 types of modified proteins at .apprx.10 μ M concentration condense with each other at pH .apprx.5 to form conjugates linked by hydrazone bonds. Under proper conditions, conjugates containing mainly dimers and trimers or, if desired, higher oligomers can be obtained. The conjugates can be dissociated to their individual protein components by an exchange reaction with an excess of acetyl hydrazide. The reversible hydrazone bonds of conjugates can be reduced with NaCNBH₃ to give stable hydrazide bonds. The stability of protein-hydrazone conjugates was significantly greater than that of the model compound, the N-acetylhydrazone of p-carboxybenzaldehyde. This difference is believed to result from the presence of multiple hydrazone linkages in protein conjugates.

IT 25996-47-8P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and UV spectrum of)

RN 25996-47-8 HCAPLUS

CN Acetic acid, [(4-nitrophenyl)methylene]hydrazide (9CI) (CA INDEX NAME)



L58 ANSWER 29 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1985:184999 HCAPLUS

DN 102:184999

TI Studies on 4-thiazolidinones as antibacterial agents

AU Shah, S. J.; Shah, S. R.; Desai, N. C.; Thaker, K. A.

CS Dep. Chem., Bhavnagar Univ., Bhavnagar, 364 002, India

SO Journal of the Indian Chemical Society (1984), 61(7), 648-9

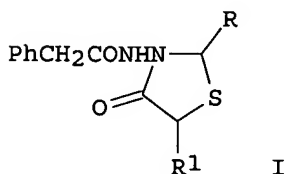
CODEN: JICSAH; ISSN: 0019-4522

DT Journal

LA English

OS CASREACT 102:184999

GI



AB Bactericidal thiazolidinones I (R = Ph, substituted Ph, R1 = H, CH₂CO₂H) were prepared in 55-60% yields by cyclocondensation of PhCH₂CONHN:CHR, prepared in 65-75% yields by condensation of RCHO with PhCH₂CONHNH₂, with R1CH(SH)CO₂H. I (R = 5,2-Br(HO)C₆H₂, R1 = H) inhibited Staphylococcus aureus in an agar plate test to give a zone diameter >20%.

IT 1087-36-1P 54009-60-8P 67759-87-9P

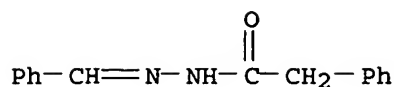
92965-60-1P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation and cyclocondensation with thioglycolic and thiomalic acids)

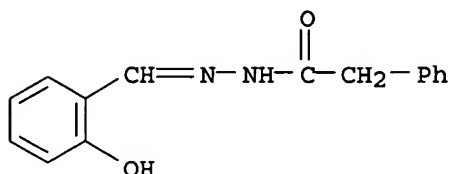
RN 1087-36-1 HCAPLUS

CN Benzeneacetic acid, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



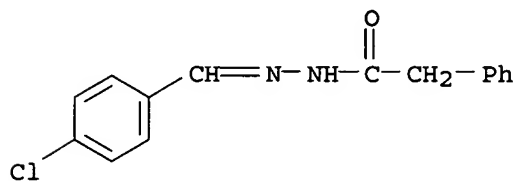
RN 54009-60-8 HCAPLUS

CN Benzeneacetic acid, [(2-hydroxyphenyl)methylene]hydrazide (9CI) (CA INDEX NAME)



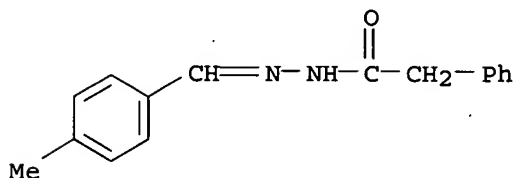
RN 67759-87-9 HCAPLUS

CN Benzeneacetic acid, [(4-chlorophenyl)methylene]hydrazide (9CI) (CA INDEX NAME)



RN 92965-60-1 HCAPLUS

CN Benzeneacetic acid, [(4-methylphenyl)methylene]hydrazide (9CI) (CA INDEX NAME)



L58 ANSWER 30 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1985:24441 HCAPLUS

DN 102:24441

TI Synthesis and antifungal activity of some new 2[2-(4'-aryl-5'-methoxystyryl)-1',2',4'-triazol-3'-thiol]pyridines [4-aryl-5-[2-[2-(2-pyridyl)vinyl]phenoxy]methyl-1,2,4-triazole-3-thiones]

AU Bhattacharya, B. K.; Dirk, V. D.; Hoornaert, G.; Sawant, S.

CS Dep. Chem., Polytech. Inst. New York, Brooklyn, NY, 11201, USA

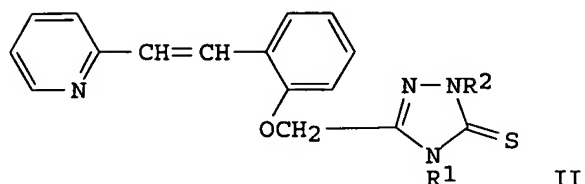
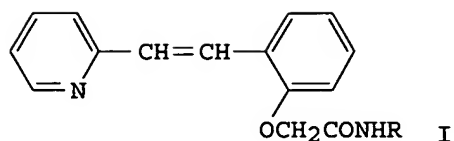
SO Bokin Bobai (1984), 12(8), 383-90

CODEN: BOBODP; ISSN: 0385-5201

DT Journal

LA English

GI



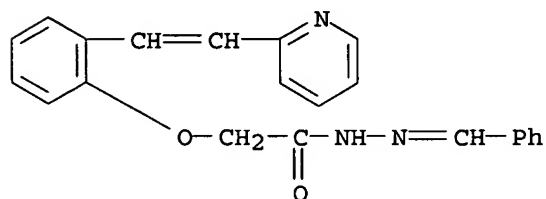
AB The hydrazide I ($R = \text{NH}_2$) on treatment with R_1NCS ($\text{R}_1 = \text{Ph}$, substituted Ph, 2-furyl) furnished I ($R = \text{NHCS}_2\text{NHR}_1$) which on cyclization with NaOH yielded the triazoloethiols II ($\text{R}_2 = \text{H}$). On treatment with R_3COCl ($\text{R}_3 = \text{Ph}$, Cl_6H_4 , 2,4- $\text{Cl}_2\text{C}_6\text{H}_3$) II ($\text{R}_2 = \text{H}$) yielded II ($\text{R}_2 = \text{COR}_3$). Sixteen of these compds. were screened for their fungicidal activity against *Aspergillus niger* and *Aspergillus flavus* compared with Benomyl, structure activity relationship are discussed.

IT 93912-06-2P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 93912-06-2 HCAPLUS

CN Acetic acid, [2-[2-(2-pyridinyl)ethenyl]phenoxy]-,
(phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



L58 ANSWER 31 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1981:619992 HCAPLUS

DN 95:219992

TI Synthesis of ethyl p-(2-benzoxazolyl)phenoxyacetate and corresponding hydrazides

AU Bahadur, Surendra; Pandey, K. K.

CS Chem. Dep., Lucknow Univ., Lucknow, 226 007, India

SO Journal of the Indian Chemical Society (1981), 58(9), 883-4

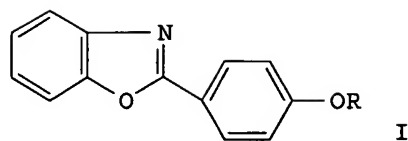
CODEN: JICSAH; ISSN: 0019-4522

DT Journal

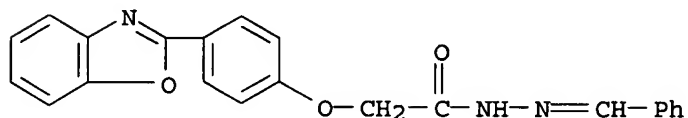
LA English

OS CASREACT 95:219992

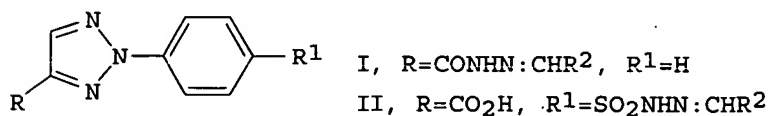
GI



- AB Etherification of benzoxazole I (R = H) with ClCH₂CO₂Et gave I (R = CH₂CO₂Et), which was treated with N₂H₄ to give I (R = CH₂CONHNH₂) (II). Condensation of II with R₁CHO (R₁ = Ph, 4-ClC₆H₄, 4-O₂NC₆H₄, 4-HOC₆H₄, 2-HOC₆H₄, 2,3-HO(MeO)C₆H₃, 4-MeOC₆H₄, 2-furyl) gave I (R = OCH₂CONHN:CHR₁) (III), reduction of which with NaBH₄ gave I (R = OCH₂CONHNHCH₂R₁) (IV). Antiviral and bactericidal activity of III and IV was given.
- IT **79945-53-2P**
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
 (preparation and bactericidal activity of)
- RN 79945-53-2 HCAPLUS
- CN Acetic acid, [4-(2-benzoxazolyl)phenoxy]-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)

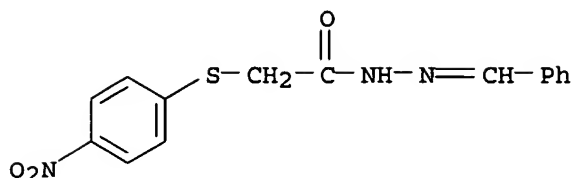


- L58 ANSWER 32 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
- AN 1977:155582 HCAPLUS
- DN 86:155582
- TI Synthesis of a few acid hydrazides: sulfonyl hydrazides and their derivatives from 2-phenyl-1,2,3-triazole-4-carboxylic acid and [(4-nitrophenyl)thio]acetic acid as antibacterials
- AU Nadkarny, V. V.; Rao, R. S.; Fernandes, P. S.
- CS Nadkarny-Sacasa Res. Lab., St. Xavier's Coll., Bombay, India
- SO Journal of the Indian Chemical Society (1976), 53(8), 833-6
 CODEN: JICSAH; ISSN: 0019-4522
- DT Journal
- LA English
- GI

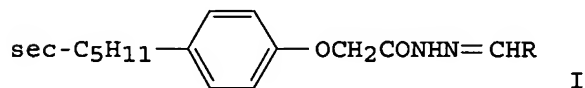


- AB The triazoles I and II and p-O₂NC₆H₄SCH₂CONHN:CHR₂ (R₂ = 2-furyl, C₆H₄R₃, R₃ = H, NO₂-p, OH-o, OMe-p) were prepared by treating OCHR₂ with the corresponding acid hydrazides, which inhibited the growth of Staphylococcus aureus, Escherichia coli, and Salmonella typhi.
- IT **62352-45-8P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
- RN 62352-45-8 HCAPLUS
- CN Acetic acid, [(4-nitrophenyl)thio]-, (phenylmethylene)hydrazide (9CI) (CA

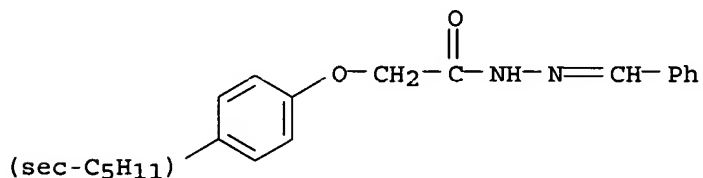
INDEX NAME)



L58 ANSWER 33 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1976:508377 HCAPLUS
 DN 85:108377
 TI Synthesis of some p-sec-amyl phenoxyacetyl hydrazones and their antibacterial activity
 AU Sen Gupta, Anil K.; Avasthi, Kamalakar; Imam, S. A.
 CS Dep. Chem., Univ. Lucknow, Lucknow, India
 SO Indian Journal of Pharmacy (1976), 38(1), 11-12
 CODEN: IJPAAO; ISSN: 0019-5472
 DT Journal
 LA English
 GI



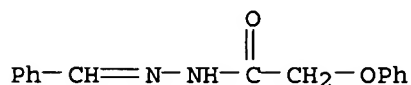
AB Benzaldehydes and PhCH:CHCHO condensed with a phenoxyacetohydrazide derivative to give eighteen hydrazones I (R = Ph, substituted phenyl, PhCH:CH) which showed bactericidal activity.
 IT 60219-70-7P
 RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses) (preparation and bactericidal activity of)
 RN 60219-70-7 HCAPLUS
 CN Acetic acid, (4-sec-pentylphenoxy)-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



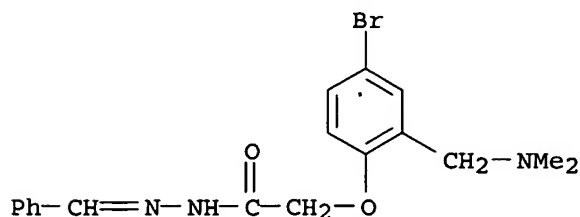
L58 ANSWER 34 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1974:413235 HCAPLUS
 DN 81:13235
 TI Preparation of hydrazone derivatives of phenoxyacetic acid. In vitro study of its monoamine oxidase inhibiting activity. II. Azote substitution derivatives
 AU Orzalesi, H.; Castel, J.; Fulcrand, P.; Chevallet, P.; Soulas, D.; Noel,

A. M.

CS Lab. Pharm. Chim., Fac. Pharm., Montpellier, Fr.
 SO Travaux de la Societe de Pharmacie de Montpellier (1974), 33(4),
 623-8
 CODEN: TSPMA6; ISSN: 0037-9115
 DT Journal
 LA French
 AB The condensation of PhOCH₂CONHNH₂ with aldehydes and ketones gave
 PhOCH₂CONHN:CHRR₁ which were converted to five PhOCH₂-CONHNHCHRR₁ (I; R =
 H, Me; R₁ = Me, Ph, PhCH₂, CO₂H). Hydrazines and PhOCH₂CO₂Et gave
 PhOCH₂CON-HNHR (II; R = Me, Ph). I and II are potential monoamine oxidase
 inhibitors.
 IT 52093-72-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (hydrogenation of)
 RN 52093-72-8 HCAPLUS
 CN Acetic acid, phenoxy-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)

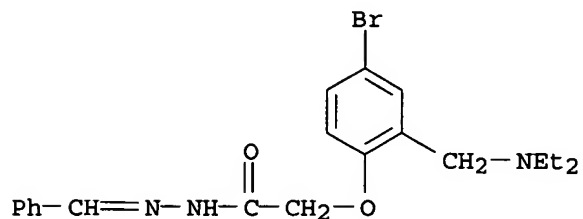


L58 ANSWER 35 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1973:427830 HCAPLUS
 DN 79:27830
 TI Mutagenic effect of new chemical compounds. II. Mutagenic effect of
 phenyl- and phenoxyacetic acid derivatives
 AU Paronikyan, G. M.; Akopyan, L. G.
 CS Inst. Fine Org. Chem., Erevan, USSR
 SO Genetika (Moscow) (1973), 9(4), 78-84
 CODEN: GNKAA5; ISSN: 0016-6758
 DT Journal
 LA Russian
 AB Of 45 phenylacetic and phenoxyacetic acid ester derivs. tested, 12 were
 mutagenic toward mutants of Escherichia coli, Actinomyces rimosus, and
 Saccharomyces cerevisiae. The most active of these was Me
 2-chloromethyl-4-bromophenoxy acetate hexamethylenetetramine salt
 [16253-49-9]. It induced reversion mutants in the threonine and lysine
 loci in the bacteria.
 IT 42024-65-7 42024-69-1 42024-73-7
 42024-77-1
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological
 study, unclassified); BIOL (Biological study)
 (mutagenic activity of)
 RN 42024-65-7 HCAPLUS
 CN Acetic acid, [4-bromo-2-[(dimethylamino)methyl]phenoxy]-,
 (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



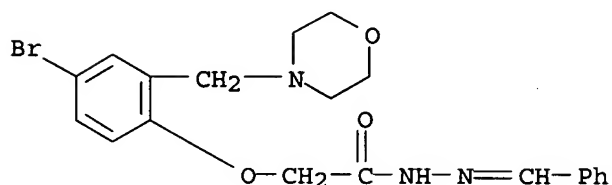
RN 42024-69-1 HCAPLUS

CN Acetic acid, [4-bromo-2-[(diethylamino)methyl]phenoxy]-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



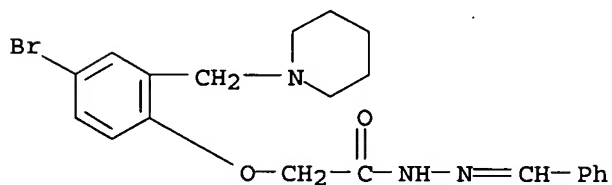
RN 42024-73-7 HCAPLUS

CN Acetic acid, [4-bromo-2-(4-morpholinylmethyl)phenoxy]-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



RN 42024-77-1 HCAPLUS

CN Acetic acid, [4-bromo-2-(1-piperidinylmethyl)phenoxy]-, (phenylmethylene)hydrazide (9CI) (CA INDEX NAME)



L58 ANSWER 36 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1969:114824 HCAPLUS

DN 70:114824

TI Antiadrenergic and antiarrhythmic 1-aminomethyl-2-phenoxyethanols

IN Wooldridge, Kenneth R. H.; Basil, Berkeley

PA May and Baker Ltd.

SO S. African, 52 pp.

CODEN: SFXAB

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	ZA 6803130	A	19681021	ZA 1968-3130	19680515 <--
	GB 1231783	A	19710512	GB 1967-22735	19670516 <--
	BE 715205	A	19681118	BE 1968-715205	19680515 <--
	FR 1570087	A	19690606	FR 1968-151931	19680515 <--
	FR 7616	M	19700119	FR 1968-151932	19680515 <--
	CH 485663	A	19700215	CH 1969-19428	19680516 <--
	CH 489467	A	19700430	CH 1968-7226	19680516 <--

DE 1768468	A	19710701	DE 1968-1768468	19680516 <--
GB 1247384	A	19710922	GB 1968-37103	19680802 <--
SU 931103	A3	19820523	SU 1968-1290765	19681218 <--
DE 1815808	A	19700226	DE 1968-1815808	19681219 <--
DE 1815808	C3	19800221		
DE 1815808	B2	19790531		
NL 169172	B	19820118	NL 1968-18289	19681219 <--
NL 169172	C	19820616		
BE 725845	A	19690620	BE 1968-725845	19681220 <--
CH 484057	A	19700115	CH 1968-19020	19681220 <--
PRAI GB 1967-58516	A	19671222	<--	
GB 1967-22735	A	19670516	<--	
GB 1968-56513	A	19680514	<--	
ZA 1968-3130		19680515	<--	
GB 1968-1968		19680802	<--	
GB 1968-37103	A	19680802	<--	

GI For diagram(s), see printed CA Issue.

AB The title compds. antagonize some effects of adrenaline, noradrenaline, and sympathetic stimulation on cardiac muscle, show antiarrhythmic properties, and are valuable in treatment of various cardiac disorders including coronary disease, angina, and cardiac arrhythmias. Some of them possess hypotensive properties. 1-(o-Acetylphenoxy)-2,3-epoxypropane (I) (23.6 g.), 8.4 g. NH₂OH·HCl, and 98.5 g. anhydrous NaOAc in 100 cc. dry Me₂NCHO was stirred for 18 hrs. at room temperature, 50 g. iso-PrNH₂ and 50 cc. EtOH added, and the mixture refluxed for 3 hrs. to give DL-1-(o-acetylphenoxy)-2-hydroxy-3-isopropylaminopropane (II) oxime, m. 94°. I (15 g.), 15 g. iso-PrNH₂, and 25 cc. EtOH was refluxed for 3 hrs. to give 11 g. II, m. 104-6°, converted conventionally to the oxime; II·HCl m. 70-5°. Similarly were prepared DL-2-hydroxy-1-isopropylamino-3-(o-propionylphenoxy)propane oxime, m. 68-9°; DL-1-(o-butyrylphenoxy)-2-hydroxy-3-isopropyl-aminopropane oxime, m. 68-70°; DL-2-hydroxy-1-isopropylamino-3-(o-valerylphenoxy)propane oxime·HCl, m. 137-8°; DL-2-hydroxy-1-(o-isobutyrylphenoxy)-3-isopropylaminopropane oxime, m. 64-6°; DL-2-hydroxy-1-isopropylamino-3-(o-pivaloylphenoxy)propane oxime·HCl, m. 203-4°; DL-1-(o-heptanoylphenoxy)-2-hydroxy-3-isopropylaminopropane oxime·HCl, m. 107-8°; DL-2-hydroxy-1-(o-isohexanoylphenoxy)-3-isopropylaminopropane oxime·HCl, m. 119-24°; DL-2-hydroxy-1-isopropylamino-3-(o-phenylacetylphenoxy)propane oxime, m. 170-2°; DL-2-hydroxy-1-isopropylamino-3-[o-(β-phenylpropionyl)phenoxy]propane oxime·HCl, m. 150°; DL-2-hydroxy-1-iso-propylamino-3-[o-(4-pyridylcarbonyl)phenoxy]propane oxime, m. 120-4°; DL-1-(2-acetyl-4-methylphenoxy)-2-hydroxy-3-iso-propylaminopropane oxime, m. 97-9°; DL-1-(2-acetyl-4-methoxyphenoxy)-2-hydroxy-3-isopropylaminopropane oxime, m. 134-6°; DL-1-(2-acetyl-4-chlorophenoxy)-2-hydroxy-3-isopropyl-aminopropane oxime, m. 104-10°; DL-1-(4-acetamido-2-acetylphenoxy)-2-hydroxy-3-isopropylaminopropane oxime, m. 126-9°; DL-1-(2-acetyl-5-phenylphenoxy)-2-hydroxy-3-isopropyl-aminopropane oxime, m. 144-6°; DL-1-(2-acetyl-3,5-dimethylphenoxy)-2-hydroxy-3-isopropylaminopropane oxime, m. 106-10°; DL-1-(2-acetyl-4,5-dimethylphenoxy)-2-hydroxy-3-iso-propylaminopropane oxime, m. 127-9°; DL-1-(o-acetylphenoxy)-3-tert-butylamino-2-hydroxypropane oxime·2HCl, m. 146-8°; DL-1-(o-acetylphenoxy)-3-(2-ethoxyethylamino)-2-hydroxypropane oxime, m. 79-83°; DL-1-(o-acetylphenoxy)-2-hydroxy-3-isopropylaminopropane O-methylloxime HCl salt, m. 142-4°; DL-1-(2-acetyl-4-nitrophenoxy)-2-hydroxy-3-isopropylaminopropane oxime, m. 155-8°; DL-1-(2-acetyl-5-chlorophenoxy)-2-hydroxy-3-isopropylaminopropane oxime, m. 119-22°; DL-1-(2-acetyl-4-phenylphenoxy)-2-hydroxy-3-isopropylaminopropane oxime, m. 112-15°; DL-1-(2-acetyl-4,5-dichlorophenoxy)-3-iso-propylaminopropane oxime, m. 140-2°; DL-1-(o-acetylphenoxy)-2-hydroxy-3-(1-methyl-3-phenylpropylamino)propane oxime·HCl, m. 139°; and DL-1-(o-acetylphenoxy)-2-hydroxy-3-

isopropyl-aminopropane O-benzoyloxime HCl salt, m. 113-14°. The tabulated III were prepared in 2 ways. Method A: A mixture of a phenol, excess epichlorohydrin, K₂CO₃, and Me₂NCHO was heated under N on a steam bath. The period of heating was determined by following the course of the reaction by thin-layer chromatog. The mixture was poured into H₂O, extracted with Et₂O, dried, distilled in vacuo, and recrystd. Method B: The phenol was treated with a solution of EtONa in EtOH, and the precipitated Na salt of the phenol was filtered off and added in portions (sometimes by means of Soxhlet extractor) to a refluxing solution of excess epichlorohydrin in EtOH. The mixture was refluxed for a further period (determined by following the course of the reaction by thin-layer chromatog.) and worked up as in Method A. The following intermediates for III were prepared conventionally: o-hydroxypivalophenone, b₂₀ 125-35°; 1-(o-hydroxybenzoyl)-3-methylbutane, b_{0.5} 115-20°; 1-hydroxy-1-(o-methoxyphenyl)-4-methylpentane, b_{0.5} 112-20°; 4-(o-hydroxybenzoyl)pyridine, m. 76-7°; 4-(o-methoxybenzoyl)-pyridine, b_{0.1} 140-50°; 4,5-dichloro-2-hydroxyacetophenone, m. 105-6°. The tabulated IV (R₁ = H) were prepared by refluxing III in EtOH with excess amine (method A), carrying out the reaction at room temperature (method B), or heating III and the amine under N at 120° (method C). II (10 g.) was mixed with a solution of 4 g. thiosemicarbazide in 25 cc. H₂O and allowed to stand 18 hrs. to give the thiosemicarbazone hydrate, m. 166-8°. Similarly prepared were: II 4-(o-methoxybenzyl)thiosemicarbazone, m. 93-7°; DL-1-(2-acetyl-4-chlorophenoxy)-2-hydroxy-3-isopropyl-aminopropane thiosemicarbazone, m. 100-2°; and DL-1-(2-acetyl-3,5-dimethylphenoxy)-2-hydroxy-3-isopropylaminopropane thiosemicarbazone, m. 130-2°. Also prepared were II semicarbazone di-HCl salt, m. 159-62°; DL-1-(2-acetyl-4-chlorophenoxy)-2-hydroxy-3-isopropylaminopropane semicarbazone, m. 134-5°; DL-1-(2-acetyl-3,5-dimethylphenoxy)-2-hydroxy-3-iso-propylaminopropane semicarbazone, m. 121-4°; DL-1-(2-acetyl-4,5-dimethylphenoxy)-2-hydroxy-3-isopropylaminopropane semicarbazone, m. 135-7°; II 4-phenylsemicarbazone di-HCl salt, m. 98-102°; and DL-1-(2-acetyl-4-methoxyphenoxy)-2-hydroxy-3-isopropylaminopropane semicarbazone, m. 128-31°. II (10 g.) in 10 cc. MeOH and 10 cc. 2N AcOH were mixed with 6.45 g. 4-(ethoxyethyl)thiosemicarbazide in 25 cc. 2N AcOH and allowed to stand 30 min. to give II 4-(ethoxyethyl)thiosemicarbazone di-HCl salt, m. 125-8°. Also prepared were II 4-sec-butylthio-semicarbazone di-HCl salt, m. 75-80°; II 4-isobutylthiosemicarbazone di-HCl salt, m. 151-4°; II 4-tert-butylthiosemicarbazone di-HCl salt, m. 152-6°; II 4-(o-chlorophenyl)thiosemicarbazone di-HCl salt, m. 125°; II 4-benzylthiosemicarbazone, m. 99-100°; II isonicotinoylhydrazone-3HCl, m. 148-50°; II 4-(2-pyridyl)semicarbazone-HCl, m. 135-6°; DL-1-(o-benzoylphenoxy)-2-hydroxy-3-isopropylaminopropane oxime, m. 122-5°; II 4-methylthiosemicarbazone-2HCl, m. 76°; II hydrazone, m. 96-8°; II p-tolylsulfonylhydrazone, m. 169-72°; II p-methoxyphenylsulfonylhydrazone-HCl, m. 176-7°; II p-nitrophenylsulfonylhydrazone-HCl, m. 176-7°; II p-chloro-phenylsulfonylhydrazone-HCl, m. 181-4°; II m-chlorophenyl sulfonylhydrazone-HCl, m. 168-70°; II 1-naphthylsulfonyl-hydrazone-HCl, m. 122-5°; II 2-naphthylsulfonylhydrazone-HCl, m. 80-2°; II 3-methylisothiazo-4-ylsulfonylhydrazone-2HCl, m. 65-70°; II 4-phenoxyphenylsulfonylhydrazone-2HCl, m. 129-33° (decomposition); II butylsulfonylhydrazone, m. 102-7°; II benzylsulfonylhydrazone, m. 112-17°; II p-dimethylaminophenylsulfonylhydrazone-HCl, hydrate, m. 60-80°; II p-cyanophenylsulfonylhydrazone, m. 171-3°; II o-chlorophenylsulfonylhydrazone-HCl, m. 183-7°; II p-bromophenylsulfonylhydrazone-HCl, m. 198-201°; II

p-acetamidophenylsulfonylhydrazone-HCl, m. 85-7° (decomposition); and II p-hydroxyphenylsulfonylhydrazone-HCl, m. 102-7°. The following intermediates were prepared conventionally: m-chlorobenzenesulfonyl hydrazide, m. 60-4°; p-phenoxybenzene-sulfonyl hydrazide, m. 137.5-9.5°; p-dimethylaminobenzene-sulfonyl hydrazide hydrate, m. 230°; and o-chlorobenzenesulfonyl hydrazide, m. 101-3°. DL-1-(4-Chloro-2-propionylphenoxy)-2-hydroxy-3-isopropylaminopropane phenylsulfonyl-hydrazone-HCl m. 85-90°. 5'-Chloro-2'-hydroxypropionophenone (122 g.) was added to MeONa in MeOH (prepared from 15.5 g. Na and 1000 cc. anhydrous MeOH) and the mixture concentrated to dryness to

give

the Na salt of the phenol. The Na salt was added during 1 hr. to a refluxing mixture of 150 cc. epichlorohydrin and 150 cc. MeOH and refluxing was maintained for 3 hrs. to give 1-(4-chloro-2-propionylphenoxy)-2,3-epoxypropane (V), m. 54°. A mixture of 48 g. V, 100 cc. iso-PrNH₂, and 100 cc. MeOH was refluxed for 24 hrs. to give DL-1-(4-chloro-2-propionylphenoxy)-2-hydroxy-3-isopropylaminopropane, m. 76-81°. DL-1-(2-Acetyl-4,6-dichlorophenoxy)-2-hydroxy-3-isopropylaminopropane phenylsulfonylhydrazone-HCl m. 105-6°. A mixture of 110 g. 3',5'-dichloro-2'-hydroxyacetophenone, 37.4 g. anhydrous K₂CO₃, 200 g. epichlorohydrin, and 500 cc. anhydrous Me₂NCHO was heated under N for 8 hrs. at 100° to give 1-(2-acetyl-4,6-dichlorophenoxy)-2,3-epoxypropane, b. 140-50°, which (32 g.), 100 cc. iso-PrNH₂, and 50 cc. anhydrous EtOH was refluxed 7 days to give DL-1-(2-acetyl-4,6-dichlorophenoxy)-2-hydroxy-3-isopropylaminopropane, m. 74-5°. DL-1-(2-Acetyl-4-nitrophenoxy)-2-hydroxy-3-isopropylaminopropane phenylsulfonylhydrazone-HCl m. 200-2°; DL-1-(2-acetyl-4-chlorophenoxy)-2-hydroxy-3-isopropylaminopropane phenylsulfonylhydrazone-HCl m. 208-9°; DL-1-(2-acetyl-4,6-dichlorophenoxy)-2-hydroxy-3-isopropylaminopropane 2-naphthyl-sulfonylhydrazone-HCl m. 162-4°; DL-1-(2-acetyl-4,6-dichlorophenoxy)-2-hydroxy-3-isopropylaminopropane 1-naphthyl-sulfonylhydrazone-HCl m. 172°; DL-1-(2-acetyl-5-chlorophenoxy)-2-hydroxy-3-isopropylaminopropane phenylsulfonyl-hydrazone-HCl m. 185-8°; II isonicotinoylhydrazone-HCl m. 21-2°. The tabulated VI were also prepared. A mixture of 25 g. Me 3,5-dihydroxybenzoate, 50 cc. 100% N₂H₄.H₂O, and 100 cc. dry EtOH was refluxed for 5 hrs. to give 3,5-dihydroxybenzhydrazide, m. 265-6° (decomposition). Also were prepared 3,5-dichloro-4-methoxybenzhydrazide, m. 214-15°; and o-chlorophenylacetyl-hydrazide, m. 153-5.5°. DL-1-(4-Chloro-2-propionylphenoxy)-2-hydroxy-3-(1-methyl-3-phenylpropylamine) oxime-HCl hydrate m. 65° (decomposition). A mixture (48 g.) 1-(4-chloro-2-propionylphenoxy)-2,3-epoxypropane, 30 g. 3-amino-1-phenylbutane, and 150 cc. anhydrous MeOH was refluxed 24 hrs. The MeOH was evaporated and the

residue

heated at 120° for 12 hrs. and at 150° for 3 hrs. to give DL-1-(4-chloro-2-propionylphenoxy)-2-hydroxy-3-(1-methyl-3-phenylpropylamino)propane, m. 81-5°, phenylsulfonylhydrazone-HCl m. 114-17°. II guanylhydrazone trinitrate m. 180-1°; DL-1-(o-acetylphenoxy)-3-cyclohexylamino-2-hydroxypropane phenylsulfonylhydrazone-HCl m. 194.5-97° (decomposition). A mixture of 10 g. 1-(o-acetylphenoxy)-2,3-epoxypropane, 10 cc. cyclohexylamine, and 35 cc. anhydrous EtOH was refluxed 2 days to give DL-1-(o-acetylphenoxy)-3-cyclohexylamine-2-hydroxypropane, m. 88.5°. DL-1-(o-Acetylphenoxy)-3-benzylamino-2-hydroxypropane phenylsulfonyl-hydrazone-HCl m. 175-8°. A mixture of 10 g. 1-(o-acetylphenoxy)-2,3-epoxypropane, 35 cc. PhCH₂NH₂, and 35 cc. anhydrous MeOH was allowed to stand at room

temperature

under N for 24 hrs. to give DL-1-(o-acetylphenoxy)-3-benzylamino-2-hydroxypropane-HCl, m. 140-4°. II semicarbazone-HCl m. 188-90°; II phenylsulfonylhydrazone m. 161-2°; II p-chlorophenylsulfonyl-hydrazone m. 161-2°; II phenylsulfonylhydrazone di-p-toluoyl-tartrate m. 60° (decomposition). A mixture of 60 g. 1-(o-acetylphenoxy)-2,3-epoxypropane and 20 g.

N-isopropylethylamine was refluxed until thin-layer chromatog. showed the reaction was complete, and dissolved in CHCl_3 . The solution was treated with excess dry HCl ; the precipitate was treated with 2N NaOH and extracted with

Et_2O .

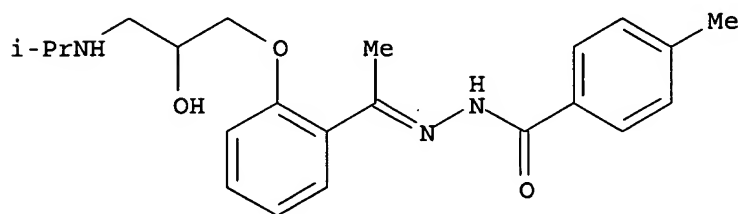
The extract was dried and treated with a solution of 17.3 g. di-p-toluoyltartaric acid in Et_2O to give DL-1-(o-acetylphenoxy)-2-hydroxy-3-(N-isopropylmethylamino)propane di-p-toluoyltartrate.
DL-1-(o-Acetylphenoxy)-2-hydroxy-3-(1-phenylethylamine)propane phenylsulfonylhydrazone m. $101-5^\circ$ (decomposition). A mixture of 17.3 g. 1-(o-acetylphenoxy)-2,3-epoxypropane, 10.9 g. 1-phenylethylamine, and 150 cc. dry MeOH was refluxed for 36 hrs. to give DL-1-(o-acetylphenoxy)-2-hydroxy-3-(1-phenylethylamino)propane- HCl , m. $136-8^\circ$.

IT 22634-13-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 22634-13-5 HCAPLUS

CN p-Toluic acid, [o-[2-hydroxy-3-(isopropylamino)propoxy]- α -methylbenzylidene]hydrazide monohydrochloride, DL- (8CI) (CA INDEX NAME)



● HCl

L58 ANSWER 37 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1969:77540 HCAPLUS

DN 70:77540

TI Antitubercular compounds. XLIII. Preparation and antibacterial properties of certain derivatives of isomeric hydroxyphenylacetic acids

AU Lange, Jerzy; Urbanski, Tadeusz

CS Warsaw Polytech., Warsaw, Pol.

SO Dissertationes Pharmaceuticae et Pharmacologicae (1968), 20(6), 607-13

CODEN: DPHFAK; ISSN: 0012-3870

DT Journal

LA English

AB Amides, hydrazides, and hydroxamic acids of the 3 isomeric hydroxyphenylacetic acids are prepared. Amides and hydrazides of m- and p-hydroxyphenylacetic acid were prepared by the routine method involving ammonolysis and hydrazinolysis of the corresponding esters. In the ortho-series this method yielded complex mixts. of unidentified products, whose separation and purification failed. Products of satisfactory purity were obtained, however, when o-hydroxyphenylaceto-lactone was used in place of the ester. The hydroxamic acids were synthesized by treating the corresponding esters with hydroxylamine in EtOH . The conversion of the Na salts into free acids by simple acidification was successful only with the para-isomer. The other 2 hydroxamic acids were prepared by precipitating Cu chelates and subsequently decomposing them with H_2S . The following x-HOC $_6\text{H}_4\text{CH}_2\text{COR}$ were prepared (x, R and m.p. or b.p./mm. given): o, OMe, $71-2^\circ$; m, OEt, $177-9^\circ/12$; p, OEt, $187-9^\circ/20$; o, NH_2 , $113-14.5^\circ$; m, NH_2 , $122-3.5^\circ$; p, NH_2 , $174-5^\circ$; o, NHNH_2 , $154-5^\circ$; m, NHNH_2 , $169.5-71^\circ$; p, NHNH_2 ,

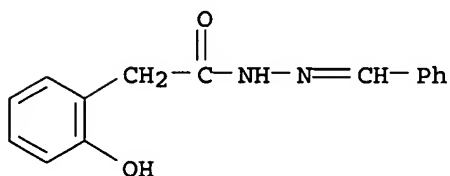
199-200°; o, NHN:CHPh, 184-5°; m, NHN:CHPh, 189-90°; p, NHN:CHPh, 248-51°; o, NHOH, 95-6.5°; m, NHOH, 132.5-34°; p, NHOH, 176° (decomposition). The prepared compds. showed moderate or weak activity against several gram pos. and gram neg. bacteria strains.

IT 22446-46-4P 22446-47-5P 22446-48-6P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

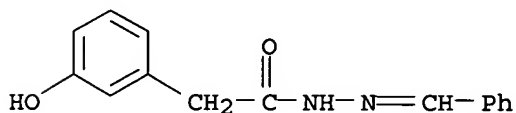
RN 22446-46-4 HCAPLUS

CN Acetic acid, (o-hydroxyphenyl)-, benzylidenehydrazide (8CI) (CA INDEX NAME)



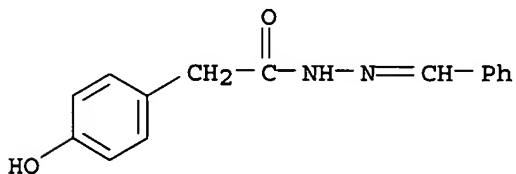
RN 22446-47-5 HCAPLUS

CN Acetic acid, (m-hydroxyphenyl)-, benzylidenehydrazide (8CI) (CA INDEX NAME)



RN 22446-48-6 HCAPLUS

CN Acetic acid, (p-hydroxyphenyl)-, benzylidenehydrazide (8CI) (CA INDEX NAME)



L58 ANSWER 38 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1967:55251 HCAPLUS

DN 66:55251

TI N-Substituted-phenyl fatty acid hydrazide derivatives

IN Kametani, Tetsuji

SO Jpn. Tokkyo Koho, 7 pp.

CODEN: JAXXAD

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 41020699	B4	19661202	JP	19630704 <--
AB	Manufacture of N-R1-2-R2-,4,5-R3-substituted phenylacetic hydrazide (I), useful as a potentiator for sedatives and for blood pressure depressants, was described. In an example, 0.5 g. 2-nitro-4,5-dimethoxyphenylacetic hydrazide is refluxed 5-10 min. in Me2CO to give 0.55 g. I (R1 =				

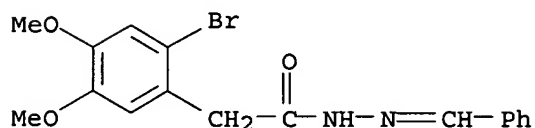
isopropylidene, R2 = NO2, R3 = di-OMe), pale yellow, m. 178-9° (EtOH). Similarly prepared are the following I (R1, R2, R3, appearance, m.p., and % yield given): 3,4-dimethoxybenzylidene, NO2, di-OMe, pale yellow, 210-12° (C6H6), 80; benzylidene, Br, methylenedioxy, powder, 209° (EtOH), 90.9; 3,4-dimethoxybenzylidene, Br, methylenedioxy, powder, 204.5-6.5° (EtOH), 96.2; 3,4-methylenedioxybenzylidene, Br, methylenedioxy, powder, 212-13° (EtOH), 98.7; 3-methoxy-4-hydroxybenzylidene, Br, methylenedioxy, powder, 228° (EtOH), 93; 3-hydroxy-4-methoxybenzylidene, Br, methylenedioxy, powder, 204-6.5° (EtOH), 93; isopropylidene, Br, methylenedioxy, powder, 176-8° (EtOH), 69.8; α -methylbenzylidene, Br, methylenedioxy, powder, 178-9° (EtOH), 82.4; propylidene, Br, di-OMe, microneedles, 153-4° (EtOH), 89.7; butylidene, Br, di-OMe, long needles, 138-9.5° (EtOH), 92.8; isobutylidene, Br, di-OMe, microneedles, 141-2° (EtOH), 84.4; crotonylidene, Br, di-OMe, pale yellow powder, 176-7° (EtOH), 73.8; 2-methylacrylidene, Br, di-OMe, pale yellow, 176-7° (EtOH), 79.5; benzylidene, Br, di-OMe, microneedles, 131.5-3.5° (EtOH), 74.7; hexylidene, Br, di-OMe, needles, 133-4° (EtOH), 77.9; heptylidene, Br, di-OMe, microneedles, 124.5-5° (EtOH), 82.5; octylidene, Br, di-OMe, microneedles, 126.5-7° (EtOH), 92.2; 2-ethylhexylidene, Br, di-OMe, columns, 126-7° (AcOEt), 85.6; nonylidene, Br, di-OMe, powder, 123-4° (EtOH), 86.1; decylidene, Br, di-OMe, powder, 125-6° (AcOEt), 77.1; undecylidene, Br, di-OMe, columns, 124.5-5.5° (EtOH), 83.9; cinnamylidene, Br, di-OMe, powder, 186-7° (C6H6), 86.0; β -phenylpropylidene, Br, di-OMe, pale orange flakes, 148.5-50.5° (EtOH), 80.3; 3,4-dimethoxybenzal, Br, di-OMe, needles, 209-9.5° (EtOH), 79.4; 3,4-methylenedioxybenzal, Br, di-OMe, needles, 228-8.5° (EtOH), 84.0; 3-methoxy-4-hydroxybenzal, Br, di-OMe, short needles, 197-8° (EtOH), 87.6. Also is prepared 85% N-(3,4-dimethoxybenzylidene)-2-nitro-4,5-dimethoxyphenylpropionic hydrazide, pale brown, m. 177-8° (EtOH).

IT 14502-15-9P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 14502-15-9 HCAPLUS

CN Acetic acid, (2-bromo-4,5-dimethoxyphenyl)-, benzylidenehydrazide (8CI)
(CA INDEX NAME)



L58 ANSWER 39 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1964:476235 HCAPLUS

DN 61:76235

OREF 61:13218b-c

TI Anticancer agents. IV. Desulfurization by hydrazine hydrate. 1. The reaction of o-, m-, and p-nitrobenzyl disulfide with hydrazine hydrate

AU Kametani, Tetsuji; Fukumoto, Keiichiro; Takayanagi, Yuriko; Teshigawar, Takashi; Umezawa, Osamu

CS Tohoku Univ., Sendai, Japan

SO Chemical & Pharmaceutical Bulletin (1960), 8(11), 995-8

CODEN: CPBTAL; ISSN: 0009-2363

DT Journal

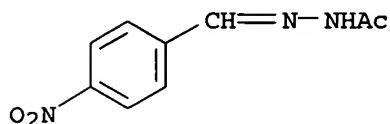
LA Unavailable

OS CASREACT 61:76235

AB cf. CA 54, 11018g; 61, 600d. When o-, m-, or p-nitrobenzyl disulfide was

refluxed with $\text{N}_2\text{H}_4 \cdot \text{H}_2\text{O}$ in EtOH, nitrobenzylidenehydrazines were formed, contrary to expectation, and reduction of the nitro group was not effected. Treatment of p-nitrobenzylidenehydrazine with HCl or H_2SO_4 gave bis(p-nitrobenzylidene)hydrazine, which formed an N-acetyl derivative by treatment with Ac_2O .

IT 25996-47-8, Acetic acid, (p-nitrobenzylidene)hydrazide
(preparation of)
RN 25996-47-8 HCAPLUS
CN Acetic acid, [(4-nitrophenyl)methylene]hydrazide (9CI) (CA INDEX NAME)



L58 ANSWER 40 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1954:42359 HCAPLUS

DN 48:42359

OREF 48:7580b-i,7581a

TI Tuberculostatic hydrazides and their derivatives

AU Buu-Hoi, Ng. Ph.; Xuong, Ng. D.; Nam, Ng. H.; Binon, Fernand; Royer, Rene
CS Univ. Paris

SO Journal of the Chemical Society, Abstracts (1953) 1358-64
CODEN: JCSAAZ; ISSN: 0590-9791

DT Journal

LA Unavailable

AB cf. C.A. 47, 2358c. Hydrazides and their hydrazone condensation products with aldehydes and ketones (many derivs. selected for chelation ability) were prepared for determination of their tuberculostatic activities in vitro, some

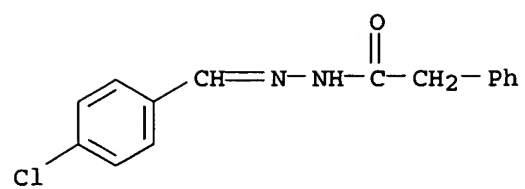
of which are given. Hydrazides prepared were: salicylic (I), and its 5-Cl (II), m. 222°, 5-Br (III), m. 218°, 3,5-di-Cl (IV), m. 175°, 3,5-di-Br (V), m. 192°, and 3,5-diiodo derivative (VI), m. 218°; p-hydroxybenzoic (VII); 2-hydroxy-3-naphthoic (VIII); 2-thiophenecarboxylic (IX), and its 5-Br (X), and 5-Cl derivative (XI); nicotinic (XII); iso-nicotinic (XIII); phenylacetic (XIV); 2-naphthyloxyacetic (XV), m. 172°; phenoxyacetic (XVI), m. 108°; dodecanoic (XVII); 2-hydroxy-1-naphthoic (XVIII), m. 206° (decomposition); 1-, m. 169°, and 2-naphthylacetic, m. 189°; 3,4-dichlorocinnamic, m. 138°. Hydrazones, RCONHN:CHR' [R', parent hydrazide (RCONHNH_2), and m.p. given]: p-MeC₆H₄: X, 191°. o-ClC₆H₄: VIII, 263°; X, 208°; XI, 210°; XII, 167°. p-ClC₆H₄: I, 262°; II, 276°; III, 275°; VIII, 266°; X, 225°; XII, 197°; XIV, 167°; XV, 215°; XVI, 175°; XVII, 102°. o-HOC₆H₄: I, 284°; II, 307°; III, 316°; VI, 247°; VII, 280°; VIII, 301°; X, 239°; XI, 229°; XII, 194°; XIII, 251°. m-HOC₆H₄: VII, 271°. p-HOC₆H₄: II, 286°; III, 292°; VII, 273°; X, 245°; XII, 248°; XV, 206°. p-MeOC₆H₄: II, 268°; III, 267°; VII, 226°; VIII, 288°; X, 187°; XI, 175°; XIV, 171°; XV, 182°; XVI, 138°. m-O₂NC₆H₄: XI, 239°. p-Me₂NC₆H₄: VII, 251°; VIII, 251°; X, 213°; XI, 207°; XIII, 199°; XVII, 103°. p-PhCH₂OC₆H₃: VII, 232°. 2,4-Cl₂C₆H₃: VIII, 261°; IX, 231°; XI, 227°. 3,4-Cl₂C₆H₃: I, 256°; II, 264°; III, 274°; VIII, 251°; X, 237°; XI, 244°; XII, 195°. 3,4-(MeO)₂C₆H₃: I, 197°; II, 239°; III, 241°; XII,

158°; XV, 181°. 5,2-Cl(HO)C₆H₃: I, 287°; II, 310°; III, 313°; VIII, 240°; X, 233°; XI, 219°; XII, 206°; XIII, 232°; XVIII, 240°. 5,2-Br(HO)C₆H₃: X, 232°; XI, 222°. 2,3-HO(MeO)C₆H₃: I, 247°; II, 266°; III, 272°; VIII, 272°; X, 249°; XI, 245°; XIII, 234°. 4,3-HO(MeO)C₆H₃: XII, 218°. 3,4-MeO[Me(CH₂)₁₁]C₆H₃: VIII, 140°; IX, 112°; XI, 141°; XII, 126°. 3,4-CH₂O₂C₆H₃: I, 271°; II, 263°; III, 253°; VII, 238°; VIII, 236°; XII, 209°; XIV, 219°; XV, 190°; XVI, 201°. 3,5,2-Cl₂(HO)C₆H₂: I, 274°; II, 297°; III, 304°; IV, 286°; V, 238°; VI, 244°; VIII, 291°; X, 246°; XII, 215°; XIII, 244°. 3,5,2-Br₂(HO)C₆H₂: I, 261°; II, 312°; III, 315°; IV, 290°; V, 266°; VI, 268°; VIII, 295°; XIII, 214°. 3,5-I₂(HO)C₆H₂: I, 258°; II, 319°; VI, 294°; IX, 261° (decomposition); X, 255°; XI, 264°; XIII, 213°. 3,5,4-I₂(HO)C₆H₂: VII, 270°; XIII, 250° (decomposition); PhCH:CH: VII, 232°; XIII, 201°. Me₂C:CH(CH₂)₂CMe:CH: VII, 140°. 1-Cl₁₀H₇: XII, 199°. 2,1-MeOC₁₀H₆: VIII, 223°. 5-Acenaphthenyl: VIII, 258°; X, 228°; XI, 231°; XII, 212°; XIII, 200°. 3-pyrenyl: VIII, 262°; X, 288°; XI, 288°; XII, 260°; XIII, 259°. 9-Ethyl-3-carbazolyl: XII, 220°; XIII, 244°. Substituted isatin-3-hydrazones [substituent(s) on isatin nucleus, parent hydrazide (RCONHNH₂), and m.p.]: H (unsubstituted): I, 326°; II, 311°; III, 315°; VIII, 332°; X, 242°; XII, 283°; XIII, 296°; XIV, 167°. 5-Br: I, 318°; II, 313°; III, 312°; VIII, 320°; XII, 292°; XIII, 318°; XIV, 228°; XV, 252°; XVI, 201°; XVII, 166°. 5-Cl: II, 314°; III, 309°. 5-Me: I, 312°; II, 316°; III, 313°; VIII, 323°; XII, 266°; XIII, 316°; XV, 260°; XVIII, 130°. 7-Me: XII, 195°; XIII, 206°. 5-Substituted-2-thiophenecarboxaldehyde hydrazones: (substituent and m.p.) Pr: II, 216°; III, 222°; X, 154°; XI, 153°. Tetradecyl: XI, 107°. 2,4-Dichlorophenyl Me ketone hydrazones (parenhydrazide and m.p. given): XII, 236°; XIII, 213°. Glyoxal bis(p-hydroxybenzoylhydrazone) m. 300°. Hydrazones, (CH₂)_n(CONHN:R')₂, derived from adipic and sebacic hydrazides, resp. (carbonyl compound and m.p. given): p-ClC₆H₄CHO, 248°, 209°; p-MeOC₆H₄CHO, 217°, 182°; piperonal, 234°, 203°; p-Me₂NC₆H₄CHO, 224°, 164°; 5-acenaphthenecarboxaldehyde, 212°, 194°; isatin (3,3'-compound), 232°, 192°; 5-bromoisatin, 233°, 242°; vanillin, 287°, -. Also prepared were: Et 3,4-dichlorocinnamate, m. 81°, and the 2,4-di-Cl isomer, m. 52°; dodecyl vanillyl ether, b₁₈ 256-8°, m. 57° (thiosemicarbazone, m. 128°; semicarbazone, m. 142°; 4-oxo-2-thiazolinyldiazone, m. 188°).

IT 67759-87-9, Hydrazine, 1-p-chlorobenzylidene-2-phenylacetyl-
(tuberculostatic activity of)

RN 67759-87-9 HCAPLUS

CN Benzeneacetic acid, [(4-chlorophenyl)methylene]hydrazide (9CI) (CA INDEX NAME)



=>



STIC Search Report

Biotech-Chem Library

STIC Database Tracking Number: 151083

TO: Susan Hanley
Location: rem/3d70/3e71
Art Unit: 1651
Tuesday, April 26, 2005

Case Serial Number: 10/047251

From: Noble Jarrell
Location: Biotech-Chem Library
Rem 1B71
Phone: 272-2556

Noble.jarrell@uspto.gov

Search Notes

10/047, 251

Search Request:

1. Please do a structure search for each of the attached compounds with the modifications that I have specified. Where possible, I have indicated a structural feature common to all of the attached compounds so that you may be able to consolidate the compounds into the fewest searches possible.
2. Please see if the compounds from your search results have been used in the following methods:
 - a. Does the compound inhibit any phosphatase?
 - b. Does the compound decrease drug resistance in plants or mammals?
 - c. Have the compounds ever been administered (i.e. sprayed, applied, etc.) to a plant such as peas, carrots, flowers, rice, wheat, any plant that you can think of.
 - d. Have any of the compounds been used to inhibit (down-regulate, antagonist, etc) an ABC transporter (also known as an ABC-binding cassette) in a cell?

For the plants, the plant can be in a cell culture.

Thanks. Please call me if you have any questions 2-2508.

Susan

=> d his

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L1 FILE 'HCAPLUS' ENTERED AT 08:10:46 ON 26 APR 2005
1 US20020173031/PN

FILE 'REGISTRY' ENTERED AT 08:11:24 ON 26 APR 2005

L2 FILE 'HCAPLUS' ENTERED AT 08:11:25 ON 26 APR 2005
TRA L1 1- RN : 23 TERMS

L3 FILE 'REGISTRY' ENTERED AT 08:11:25 ON 26 APR 2005
23 SEA L2

L4 FILE 'WPIX' ENTERED AT 08:11:27 ON 26 APR 2005
1 US20020173031/PN

=> b hcap

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FILE LAST UPDATED: 25 Apr 2005 (20050425/ED)

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=> d all 11

L1 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:628251 HCAPLUS
DN 133:219782
ED Entered STN: 10 Sep 2000
T1 Genetic and epigenetic manipulation of ABC transporters and ecto-phosphatases for modulating drug resistance and methods for detection of ecto-phosphatase inhibitors
IN Thomas, Collin E.; Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan M.; Hurley, Laurence
PA University of Texas, USA
SO PCT Int. Appl., 85 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12N005-04
ICS C12N005-06; C12N001-16; C12N001-20; C12N015-67; C12N015-81; C12N015-82; C12N015-90; A01H001-00; A01H005-00
CC 9-2 (Biochemical Methods)
Section cross-reference(s): 1, 3, 10, 11
FAN.CNT 3

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000052144	A1	20000908	WO 2000-US5315	20000228
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL,				

Search done by Noble Jarrell

IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,
 MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI,
 SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY,
 KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,
 DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,
 CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
 EP 1185623 A1 20020313 EP 2000-913685 20000228
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO
 US 2002173031 A1 20021121 US 2002-47251 20020114 <--
 PRAI US 1999-261825 A 19990303
 WO 2000-US5315 W 20000228

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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WO 2000052144	ICM ICS	C12N005-04 C12N005-06; C12N001-16; C12N001-20; C12N015-67; C12N015-81; C12N015-82; C12N015-90; A01H001-00; A01H005-00
US 2002173031	NCL ECLA	435/245.000; 435/195.000 A61K031/165+A; A61K031/166; A61K031/167; A61K031/18; A61K031/215L10; A61K031/216; A61K031/24; A61K031/352; A61K031/381; A61K031/404; A61K031/425F; C07K014/705; C12N009/14; C12N015/82C8B4 <--

AB The present invention relates to methods for modulating the resistance of cells to foreign compds., i.e. drugs, antibiotics, etc. by altering the ATP gradient across biol. membranes. Altering the ATP gradient across biol. membranes is achieved through the manipulation of ecto-phosphatase activity and ABC transporter mol. activity. The above method may be useful to confer herbicide resistance to plants, antibiotic resistance to bacteria, and drug resistance to yeast cells, or to reduce resistance in cells, bacteria, and yeast in order to facilitate chemotherapeutic treatments. The present invention is also directed to the methods for identifying ecto-phosphatase inhibitors and uses thereof. Thus, Arabidopsis thaliana has been shown to possess an ecto-apyrase and this ecto-apyrase and PGP-1 (an MDR-like protein) to have a role in MDR. Addnl., the extracellular ATP pool was shown to be critical for MDR in yeast. Screening of a combinatorial library of small mols. has resulted in identification of apyrase inhibitors.

ST drug resistance ectophosphatase ABC transporter ATP gradient

IT Transport proteins

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)

(ABC; genetic and epigenetic manipulation of ABC transporters and ecto-phosphatases for modulating drug resistance and methods for detection of ecto-phosphatase inhibitors)

IT Membrane, biological

(ATP gradient across; genetic and epigenetic manipulation of ABC transporters and ecto-phosphatases for modulating drug resistance and methods for detection of ecto-phosphatase inhibitors)

IT Chemotherapy

Herbicide resistance

(augmentation of; genetic and epigenetic manipulation of ABC transporters and ecto-phosphatases for modulating drug resistance and methods for detection of ecto-phosphatase inhibitors)

IT Neoplasm

(decreasing drug resistance in; genetic and epigenetic manipulation of ABC transporters and ecto-phosphatases for modulating drug resistance and methods for detection of ecto-phosphatase inhibitors)

IT Arabidopsis thaliana

Aspergillus fumigatus

Bacteria (Eubacteria)

Drug resistance

Lactococcus lactis

Pea

Plant cell

Saccharomyces cerevisiae

Yeast

(genetic and epigenetic manipulation of ABC transporters and

ecto-phosphatases for modulating drug resistance and methods for detection of ecto-phosphatase inhibitors)

IT Animal cell
(mammalian; genetic and epigenetic manipulation of ABC transporters and ecto-phosphatases for modulating drug resistance and methods for detection of ecto-phosphatase inhibitors)

IT 50-81-7, Ascorbic acid, uses 11098-84-3, Ammonium molybdate
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(genetic and epigenetic manipulation of ABC transporters and ecto-phosphatases for modulating drug resistance and methods for detection of ecto-phosphatase inhibitors)

IT 9013-05-2, Phosphatase 41481-51-0 139963-64-7 154201-55-5
168832-50-6 171248-07-0 291536-79-3 291536-80-6 291536-81-7
291536-82-8 291536-83-9 291536-84-0 291536-85-1 291536-86-2
291536-87-3 291536-88-4 291536-89-5 291536-90-8 291536-91-9
291536-92-0
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(genetic and epigenetic manipulation of ABC transporters and ecto-phosphatases for modulating drug resistance and methods for detection of ecto-phosphatase inhibitors)

IT 56-65-5, ATP, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(gradient of; genetic and epigenetic manipulation of ABC transporters and ecto-phosphatases for modulating drug resistance and methods for detection of ecto-phosphatase inhibitors)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Decottignies; J Biol Chem 1998, V273(20), P12612 HCAPLUS
(2) Dudler; J Biol Chem 1992, V267(9), P5882 HCAPLUS
(3) Grant; Cancer Research 1994, V54, P357 HCAPLUS
(4) Kiba; Plant Cell Physiol 1995, V36(5), P809 HCAPLUS
(5) Lu; The Plant Cell 1998, V10, P267 HCAPLUS
(6) Sidler; The Plant Cell 1998, V10(10), P1632
(7) Thomas; Plant Physiol 1999, V119, P543 HCAPLUS
(8) Wang; J Biol Chem 1996, V271(17), P9898 HCAPLUS

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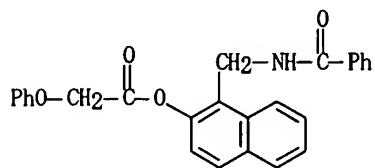
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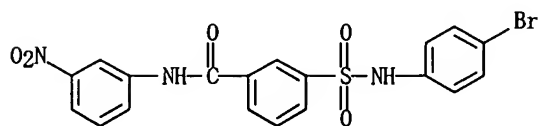
L3 ANSWER 1 OF 23 REGISTRY COPYRIGHT 2005 ACS on STN
RN **291536-92-0** REGISTRY
ED Entered STN: 28 Sep 2000
CN Acetic acid, phenoxy-, 1-[(benzoylamino)methyl]-2-naphthalenyl ester (9CI)
(CA INDEX NAME)
FS 3D CONCORD
MF C26 H21 N O4
SR CA
LC STN Files: CA, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL



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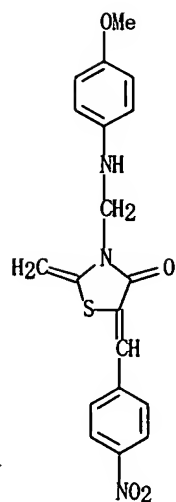
L3 ANSWER 2 OF 23 REGISTRY COPYRIGHT 2005 ACS on STN
RN **291536-91-9** REGISTRY
ED Entered STN: 28 Sep 2000
CN Benzamide, 3-[[[4-bromophenyl)amino]sulfonyl]-N-(3-nitrophenyl)- (9CI)
(CA INDEX NAME)
OTHER NAMES:
CN NGXT 1913
FS 3D CONCORD
MF C19 H14 Br N3 O5 S
SR CA
LC STN Files: CA, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL



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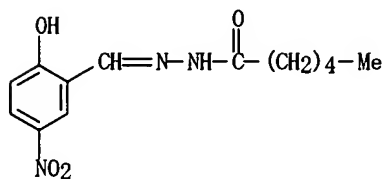
L3 ANSWER 3 OF 23 REGISTRY COPYRIGHT 2005 ACS on STN
RN **291536-90-8** REGISTRY
ED Entered STN: 28 Sep 2000
CN 4-Thiazolidinone, 3-[[[4-methoxyphenyl)amino]methyl]-2-methylene-5-[(4-nitrophenyl)methylene]- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C19 H17 N3 O4 S
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL



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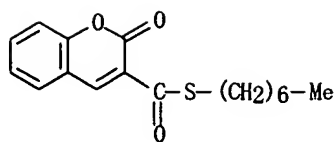
L3 ANSWER 4 OF 23 REGISTRY COPYRIGHT 2005 ACS on STN
RN **291536-89-5** REGISTRY
ED Entered STN: 28 Sep 2000
CN Hexanoic acid, [(2-hydroxy-5-nitrophenyl)methylene]hydrazide (9CI) (CA
INDEX NAME)
FS 3D CONCORD
MF C13 H17 N3 O4
SR CA
LC STN Files: CA, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL



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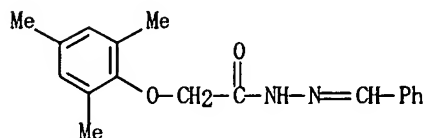
L3 ANSWER 5 OF 23 REGISTRY COPYRIGHT 2005 ACS on STN
RN **291536-88-4** REGISTRY
ED Entered STN: 28 Sep 2000
CN 2H-1-Benzopyran-3-carbothioic acid, 2-oxo-, S-heptyl ester (9CI) (CA
INDEX NAME)
FS 3D CONCORD
MF C17 H20 O3 S
SR CA
LC STN Files: CA, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL



****PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT****

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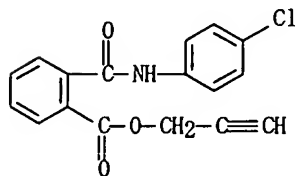
L3 ANSWER 6 OF 23 REGISTRY COPYRIGHT 2005 ACS on STN
RN **291536-87-3** REGISTRY
ED Entered STN: 28 Sep 2000
CN Acetic acid, (2,4,6-trimethylphenoxy)-, (phenylmethylene)hydrazide (9CI)
(CA INDEX NAME)
FS 3D CONCORD
MF C18 H20 N2 O2
SR CA
LC STN Files: CA, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL



****PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT****

7 REFERENCES IN FILE CA (1907 TO DATE)
7 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 7 OF 23 REGISTRY COPYRIGHT 2005 ACS on STN
RN **291536-86-2** REGISTRY
ED Entered STN: 28 Sep 2000
CN Benzoic acid, 2-[[4-(4-chlorophenyl)amino]carbonyl]-, 2-propynyl ester (9CI)
(CA INDEX NAME)
FS 3D CONCORD
MF C17 H12 Cl N O3
SR CA
LC STN Files: CA, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL

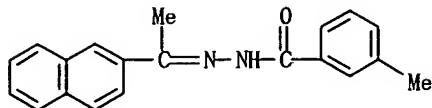


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7 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 8 OF 23 REGISTRY COPYRIGHT 2005 ACS on STN
RN **291536-85-1** REGISTRY
ED Entered STN: 28 Sep 2000
CN Benzoic acid, 3-methyl-, [1-(2-naphthalenyl)ethylidene]hydrazide (9CI)

(CA INDEX NAME)
 FS 3D CONCORD
 MF C20 H18 N2 O
 SR CA
 LC STN Files: CA, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL



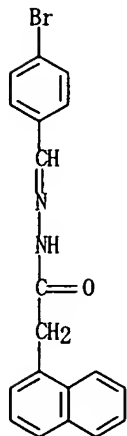
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L3 ANSWER 9 OF 23 REGISTRY COPYRIGHT 2005 ACS on STN
 RN **291536-84-0** REGISTRY
 ED Entered STN: 28 Sep 2000
 CN 1-Naphthaleneacetic acid, [(4-bromophenyl)methylene]hydrazide (9CI) (CA INDEX NAME)

OTHER NAMES:

CN NGXT 195
 FS 3D CONCORD
 DR 328125-88-8
 MF C19 H15 Br N2 O
 SR CA
 LC STN Files: CA, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL

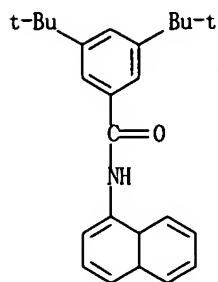


****PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT****

8 REFERENCES IN FILE CA (1907 TO DATE)
 8 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 10 OF 23 REGISTRY COPYRIGHT 2005 ACS on STN
 RN **291536-83-9** REGISTRY
 ED Entered STN: 28 Sep 2000
 CN Benzamide, N-(4a, 8a-dihydro-1-naphthalenyl)-3, 5-bis(1, 1-dimethylethyl)- (9CI) (CA INDEX NAME)
 FS 3D CONCORD
 MF C25 H31 N O
 SR CA

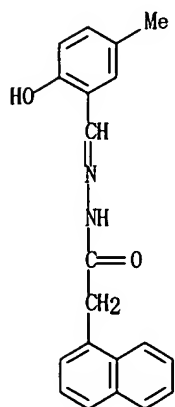
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL



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3 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

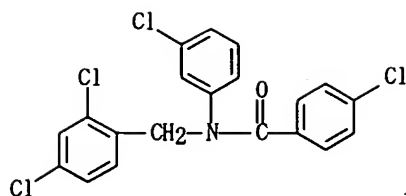
L3 ANSWER 11 OF 23 REGISTRY COPYRIGHT 2005 ACS on STN
RN **291536-82-8** REGISTRY
ED Entered STN: 28 Sep 2000
CN 1-Naphthaleneacetic acid, [(2-hydroxy-5-methylphenyl)methylene]hydrazide
(9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C20 H18 N2 O2
SR CA
LC STN Files: CA, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

7 REFERENCES IN FILE CA (1907 TO DATE)
7 REFERENCES IN FILE CAPLUS (1907 TO DATE)

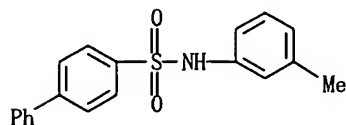
L3 ANSWER 12 OF 23 REGISTRY COPYRIGHT 2005 ACS on STN
RN **291536-81-7** REGISTRY
ED Entered STN: 28 Sep 2000
CN Benzamide, 4-chloro-N-(3-chlorophenyl)-N-[(2,4-dichlorophenyl)methyl]-
(9CI) (CA INDEX NAME)
MF C20 H13 Cl4 N O
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL



****PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT****

6 REFERENCES IN FILE CA (1907 TO DATE)
6 REFERENCES IN FILE CAPLUS (1907 TO DATE)

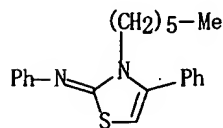
L3 ANSWER 13 OF 23 REGISTRY COPYRIGHT 2005 ACS on STN
RN **291536-80-6** REGISTRY
ED Entered STN: 28 Sep 2000
CN [1,1'-Biphenyl]-4-sulfonamide, N-(3-methylphenyl)- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN NGXT 191
FS 3D CONCORD
MF C19 H17 N O2 S
SR CA
LC STN Files: CA, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL



****PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT****

8 REFERENCES IN FILE CA (1907 TO DATE)
8 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 14 OF 23 REGISTRY COPYRIGHT 2005 ACS on STN
RN **291536-79-3** REGISTRY
ED Entered STN: 28 Sep 2000
CN Benzenamine, N-(3-hexyl-4-phenyl-2(3H)-thiazolylidene)-, monohydrobromide (9CI) (CA INDEX NAME)
MF C21 H24 N2 S . Br H
SR CA
LC STN Files: CA, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL
CRN (352638-92-7)

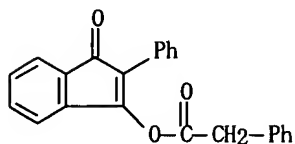


● HBr

7 REFERENCES IN FILE CA (1907 TO DATE)
7 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 15 OF 23 REGISTRY COPYRIGHT 2005 ACS on STN
RN **171248-07-0** REGISTRY
ED Entered STN: 12 Dec 1995

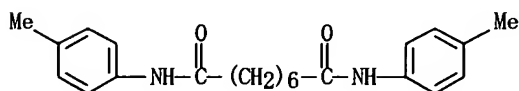
CN Benzeneacetic acid, 1-oxo-2-phenyl-1H-inden-3-yl ester (9CI) (CA INDEX NAME)
 FS 3D CONCORD
 MF C23 H16 O3
 SR CA
 LC STN Files: CA, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL



****PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT****

8 REFERENCES IN FILE CA (1907 TO DATE)
 8 REFERENCES IN FILE CAPLUS (1907 TO DATE)

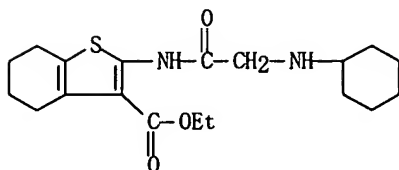
L3 ANSWER 16 OF 23 REGISTRY COPYRIGHT 2005 ACS on STN
 RN 168832-50-6 REGISTRY
 ED Entered STN: 13 Oct 1995
 CN Octanediamide, N,N'-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)
 FS 3D CONCORD
 MF C22 H28 N2 O2
 SR CA
 LC STN Files: CA, CAPLUS, CASREACT, CHEMCATS, TOXCENTER, USPATFULL



****PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT****

11 REFERENCES IN FILE CA (1907 TO DATE)
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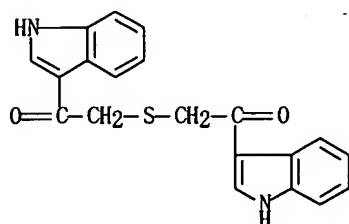
L3 ANSWER 17 OF 23 REGISTRY COPYRIGHT 2005 ACS on STN
 RN 154201-55-5 REGISTRY
 ED Entered STN: 07 Apr 1994
 CN Benzo[b]thiophene-3-carboxylic acid, 2-[[[(cyclohexylamino)acetyl]amino]-4,5,6,7-tetrahydro-, ethyl ester (9CI) (CA INDEX NAME)
 FS 3D CONCORD
 MF C19 H28 N2 O3 S
 CI COM
 SR CA
 LC STN Files: CA, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL



****PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT****

8 REFERENCES IN FILE CA (1907 TO DATE)
 8 REFERENCES IN FILE CAPLUS (1907 TO DATE)

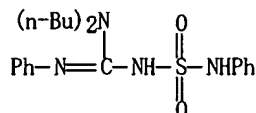
L3 ANSWER 18 OF 23 REGISTRY COPYRIGHT 2005 ACS on STN
 RN 139963-64-7 REGISTRY
 ED Entered STN: 27 Mar 1992
 CN Ethanone, 2,2'-thiobis[1-(1H-indol-3-yl)- (9CI) (CA INDEX NAME)
 FS 3D CONCORD
 MF C20 H16 N2 O2 S
 SR CA
 LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, TOXCENTER, USPATFULL
 (*File contains numerically searchable property data)



****PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT****

8 REFERENCES IN FILE CA (1907 TO DATE)
 8 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 19 OF 23 REGISTRY COPYRIGHT 2005 ACS on STN
 RN 41481-51-0 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN Guanidine, N,N-dibutyl-N'-phenyl-N'-[(phenylamino)sulfonyl]- (9CI) (CA INDEX NAME)
 MF C21 H30 N4 O2 S
 LC STN Files: BEILSTEIN*, CA, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL
 (*File contains numerically searchable property data)



****PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT****

9 REFERENCES IN FILE CA (1907 TO DATE)
 9 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 20 OF 23 REGISTRY COPYRIGHT 2005 ACS on STN
 RN 11098-84-3 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN Ammonium molybdenum oxide (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Molybdic acid, ammonium salt
 OTHER NAMES:
 CN Ammonium molybdate
 DR 12673-54-0, 11119-83-8, 11128-97-5
 MF Unspecified
 CI COM, MAN
 LC STN Files: AGRICOLA, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, CASREACT, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS, NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, USPAT2, USPATFULL, VTB
 (*File contains numerically searchable property data)
 Other Sources: EINECS**, NDSL**, TSCA**

(**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2002 REFERENCES IN FILE CA (1907 TO DATE)
61 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
2004 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 21 OF 23 REGISTRY COPYRIGHT 2005 ACS on STN
RN 9013-05-2 REGISTRY
ED Entered STN: 16 Nov 1984
CN Phosphatase (9CI) (CA INDEX NAME)
OTHER NAMES:
CN 4-Methylumbelliferyl phosphatase
CN Alkyl phosphomonoesterase
CN Naphthol-AS-BI-phosphohydrolase
CN Naphthol-AS-Bi-phosphohydrolase
CN Phosphoesterase
CN Phosphohydrolase
CN Phosphomonoesterase
CN Phosphoric acid esterase
DR 9013-13-2
MF Unspecified
CI MAN
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO,
CA, CAPLUS, CASREACT, CBNB, CEN, CHEMLIST, CIN, CSCHEM, CSNB, EMBASE,
IFICDB, IFIPAT, IFIUDB, MEDLINE, NAPRALERT, NIOSHTIC, PIRA, PROMT,
TOXCENTER, USPAT2, USPATFULL
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

14279 REFERENCES IN FILE CA (1907 TO DATE)
64 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
14286 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 22 OF 23 REGISTRY COPYRIGHT 2005 ACS on STN
RN 56-65-5 REGISTRY
ED Entered STN: 16 Nov 1984
CN Adenosine 5'-(tetrahydrogen triphosphate) (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN 5'-ATP
CN Adenosine 5'-triphosphate
CN Adenosine 5'-triphosphoric acid
CN Adenosine triphosphate
CN Adenosine, 5'-(tetrahydrogen triphosphate)
CN Adenylpyrophosphoric acid
CN Adephos
CN Adetol
CN Adynol
CN Atipi
CN ATP
CN ATP (nucleotide)
CN Atriphos
CN Cardenosine
CN Fosfobion
CN Glucobasin
CN Myotriphos
CN Phosphobion
CN Striadyne
CN Triadenyl
CN Triphosphaden
CN Triphosphoric acid adenosine ester
FS STEREOSEARCH
DR 10168-83-9, 16488-07-6, 51569-41-6, 71800-44-7, 84412-18-0
MF C10 H16 N5 O13 P3
CI COM
LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*,

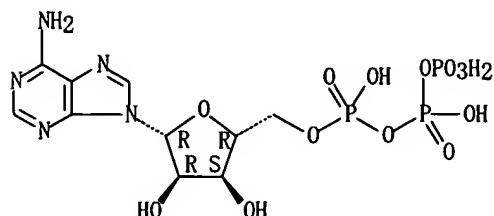
BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DETHERM*, DRUGU, EMBASE, GMELIN*, IFICDB, IFIPAT, IFIUDB, IMSDRUGNEWS, IMSRESEARCH, IPA, MEDLINE, MRCK*, NAPRALERT, NIOSHTIC, PHAR, PIRA, PROMT, PS, RTECS*, SPECINFO, TOXCENTER, TULSA, USPAT2, USPATFULL

(*File contains numerically searchable property data)

Other Sources: DSL**, EINECS**, TSCA**

(**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

73409 REFERENCES IN FILE CA (1907 TO DATE)
 1476 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 73465 REFERENCES IN FILE CAPLUS (1907 TO DATE)
 19 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L3 ANSWER 23 OF 23 REGISTRY COPYRIGHT 2005 ACS on STN

RN 50-81-7 REGISTRY

ED Entered STN: 16 Nov 1984

CN L-Ascorbic acid (8CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN (+)-Ascorbic acid
 CN 3-keto-L-Gulofuranolactone
 CN 3-Oxo-L-gulofuranolactone
 CN Adenex
 CN Allercorb
 CN Antiscorbic vitamin
 CN Antiscorbic vitamin
 CN Ascoltin
 CN Ascorbajen
 CN Ascorbic acid
 CN Ascorbicap
 CN Ascorbutina
 CN Ascorin
 CN Ascoriteal
 CN Ascorvit
 CN C-Quin
 CN C-Vimin
 CN Cantan
 CN Cantaxin
 CN Catavin C
 CN Ce-Mi-Lin
 CN Ce-Vi-Sol
 CN Cebicure
 CN Cebion
 CN Cebion, γ-lactone
 CN Cebione
 CN Cecon
 CN Cegiolan
 CN Ceglion
 CN Ceklin
 CN Celaskon
 CN Celin
 CN Cell C
 CN Cemagyl
 CN Cenetone

Search done by Noble Jarrell

CN Cereon
 CN Cergona
 CN Cescorbat
 CN Cetamid
 CN Cetane
 CN Cetane-Caps TC
 CN Cetebe
 CN Cetemican
 CN Cevalin
 CN Cevatine
 CN Cevex
 CN Cevimin
 CN Cevital
 CN Cevitamic acid
 CN Cevitamin

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for
 DISPLAY

FS STEREOSEARCH

DR 623158-95-2, 56533-05-2, 57304-74-2, 57606-40-3, 56172-55-5, 129940-97-2,
 14536-17-5, 50976-75-5, 154170-90-8, 89924-69-6, 30208-61-8, 259133-78-3

MF C6 H8 O6

CI COM

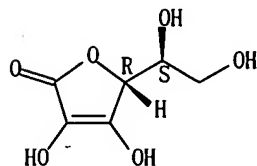
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS,
 BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB,
 CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DDFU,
 DETHERM*, DIOGENES, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2,
 ENCOMPAT, ENCOMPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB,
 IMSCOSEARCH, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC,
 PDLCOM*, PHAR, PIRA, PROMT, PS, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER,
 TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VETU, VTB

(*File contains numerically searchable property data)

Other Sources: DSL**, EINECS**, TSCA**, WHO

(**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

73455 REFERENCES IN FILE CA (1907 TO DATE)
 1595 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 73545 REFERENCES IN FILE CAPLUS (1907 TO DATE)
 12 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> b wpix

FILE 'WPIX' ENTERED AT 08:12:17 ON 26 APR 2005
 COPYRIGHT (C) 2005 THE THOMSON CORPORATION

FILE LAST UPDATED: 22 APR 2005 <20050422/UP>
 MOST RECENT DERWENT UPDATE: 200526 <200526/DW>
 DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE,
 PLEASE VISIT:
http://www.stn-international.de/training_center/patents/stn_guide.pdf <<<

>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE
<http://thomsonderwent.com/coverage/latestupdates/> <<<

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>>> NEW! FAST-ALERTING ACCESS TO NEWLY-PUBLISHED PATENT DOCUMENTATION NOW AVAILABLE IN DERWENT WORLD PATENTS INDEX FIRST VIEW - FILE WPIFV.
 FOR FURTHER DETAILS: <http://www.thomsonderwent.com/dwpifv> <<<

>>> THE CPI AND EPI MANUAL CODES HAVE BEEN REVISED FROM UPDATE 200501. PLEASE CHECK:
<http://thomsonderwent.com/support/dwpioref/reftools/classification/code-revision/>
 FOR DETAILS. <<<

=> d all 14

L4 ANSWER 1 OF 1 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN
 AN 2000-587306 [55] WPIX
 CR 2003-456227 [43]
 DNN N2000-434619 DNC C2000-175136
 TI Increasing or decreasing drug resistance in target bacteria, yeast, plant or mammalian cells comprises altering ATP gradient across biological membrane of target cell.
 DC B04 C06 P13
 IN HURLEY, L; LLOYD, A M; ROUX, S J; THOMAS, C E; WINDSOR, J B
 PA (TEXA) UNIV TEXAS; (TEXA) UNIV TEXAS SYSTEM
 CYC 90
 PI WO 2000052144 A1 20000908 (200055)* EN 85 C12N005-04
 RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL
 OA PT SD SE SL SZ TZ UG ZW
 W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES
 FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS
 LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL
 TJ TM TR TT TZ UA UG UZ VN YU ZW
 AU 2000035084 A 20000921 (200065) C12N005-04
 EP 1185623 A1 20020313 (200225) EN C12N005-04
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 RO SE SI
 US 2002173031 A1 20021121 (200279) C12N001-36 <—
 ADT WO 2000052144 A1 WO 2000-US5315 20000228; AU 2000035084 A AU 2000-35084
 20000228; EP 1185623 A1 EP 2000-913685 20000228, WO 2000-US5315 20000228;
 US 2002173031 A1 Div ex US 1999-261825 19990303, US 2002-47251 20020114
 FDT AU 2000035084 A Based on WO 2000052144; EP 1185623 A1 Based on WO
 2000052144
 PRAI US 1999-261825 19990303; US 2002-47251 20020114
 IC ICM C12N001-36; C12N005-04
 ICS A01H001-00; A01H005-00; C12N001-16; C12N001-20; C12N005-06;
 C12N009-14; C12N015-67; C12N015-81; C12N015-82; C12N015-90
 AB WO 200052144 A UPAB: 20041104
 NOVELTY - Increasing or decreasing drug resistance in target bacteria, yeast, plant or mammalian cells comprises altering the ATP gradient across the biological membrane of the target cell.
 DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for:
 (i) altering the ATP gradient across the biological membrane of a target bacteria, yeast, plant or mammalian cell to achieve an increase in drug resistance comprising up-regulating an ecto-phosphatase in the target cell;
 (ii) altering the ATP gradient across the biological membrane of a target bacteria, yeast, plant or mammalian cell to achieve a decrease in drug resistance comprising down-regulating an ecto-phosphatase in the target cell;
 (iii) altering the ATP gradient across the biological membrane of a plant cell to achieve an increase in drug resistance comprising up-regulating an ABC transporter in the target cell;
 (iv) altering the ATP gradient across the biological membrane of a plant cell to achieve a decrease in drug resistance comprising down-regulating an ABC transporter in the target cell;
 (v) augmenting the chemotherapeutic effectiveness of a chemotherapeutic molecule by decreasing resistance to the chemotherapeutic molecule in a target cell comprising down-regulating an ecto-phosphatase in the target

cell;

(vi) conferring herbicide resistance to a plant comprising up-regulating an ecto-phosphatase in the target cell;

(vii) increasing sensitivity to a drug molecule to inhibit or ameliorate micro-organism infection by altering the ATP gradient across the biological membrane of the micro-organism to achieve a decrease in drug resistance comprising down-regulating an ecto-phosphatase in the target cell;

(viii) inhibiting an ecto-phosphatase comprising administration of a compound selected from (3-hexyl-4-phenyl-3H-thiazol-2-ylidene)-phenylamine hydrobromide (I), biphenyl-4-sulfonic acid m-tolylamide (II), N,N-di-n-butyl-N'-phenyl-N''-phenylaminosulfonylguanidine (III), 4-chloro-N-(3-chloro-phenyl)-N-(2,4-dichloro-benzyl)-benzamide (IV), 1-(1H-indol-3-yl)-2-(2-(1H-indol-3-yl)-2-oxo-ethylsulfanyl)-ethanone (V), naphthalen-1-yl-acetic acid (2-hydroxy-5-methyl-benzylidene)-hydrazide (VI), 3,5-di-tert-butyl-N-naphthalen-1-yl-benzamide (VII), naphthalen-1-yl-acetic acid (4-bromo-benzylidene)-hydrazide (VIII), phenyl-acetic acid 3-oxo-2-phenyl-3H-inden-1-yl ester (IX), 3-methyl-benzoic acid (1-naphthalen-2-yl-ethylidene)-hydrazide (X), octanedioic acid bis-p-tolylamide (XI), N-(4-chloro-phenyl)-phthalamic acid prop-2-ynyl ester (XII), (2,4,6-trimethyl-phenoxy)-acetic acid benzylidene-hydrazide (XIII), 2-oxo-2H-chromene-3-carbothioic acid S-heptyl ester (XIV), hexanoic acid (2-(2-hydroxy-5-nitrophenyl)ethylidene) hydrazide (XV), 2-(2-cyclohexylamino-acetyl-amino)-4,5,6,7-tetrahydro-benzo(b)thiophene-3-carboxylic acid ethyl ester (XVI), 3-((4-methoxy-phenylamino)-methyl)-2-methylene-5-(4-nitro-benzylidene)-thiazolidin-4-one (XVII), 3-(4-bromo-phenylsulfamoyl)-N-(3-nitro-phenyl)-benzamide (XVIII) and phenoxy-acetic acid 1-(benzoylamino-methyl)-naphthalen-2-yl ester (XIX); and

(ix) decreasing drug resistance in target bacteria, yeast, plant or mammalian cells comprising administration of (I)-(XIX).

ACTIVITY - Antibacterial; fungicide.

MECHANISM OF ACTION - Ecto-phosphatase inhibitor.

USE - The method is useful for modulating drug resistance of cells. It is useful for increasing the sensitivity of cells to chemotherapeutic and antibiotic agents and increasing resistance to herbicides.

Dwg. 0/11

FS CPI GMPI

FA AB; DCN

MC CPI: B06-A01; B06-B01; B06-D01; B07-F01; B10-A08; B10-A19; B10-D03;
B10-F02; B14-A01; B14-A04; B14-D07A; B14-M01E; B14-M01F; C06-A01;
C06-B01; C06-D01; C07-F01; C10-A08; C10-A19; C10-D03; C10-F02;
C14-A01; C14-A04; C14-A06; C14-D07A; C14-M01E; C14-M01F

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=> d his full

(FILE 'HOME' ENTERED AT 08:10:27 ON 26 APR 2005)

FILE 'HCAPLUS' ENTERED AT 08:10:46 ON 26 APR 2005

L1 1 SEA ABB=ON PLU=ON US20020173031/PN

FILE 'REGISTRY' ENTERED AT 08:11:24 ON 26 APR 2005

L2 FILE 'HCAPLUS' ENTERED AT 08:11:25 ON 26 APR 2005
TRA L1 1- RN : 23 TERMS

L3 FILE 'REGISTRY' ENTERED AT 08:11:25 ON 26 APR 2005
23 SEA ABB=ON PLU=ON L2

L4 FILE 'WPIX' ENTERED AT 08:11:27 ON 26 APR 2005
1 SEA ABB=ON PLU=ON US20020173031/PN

FILE 'REGISTRY' ENTERED AT 08:13:04 ON 26 APR 2005

L5 STR
L6 STR L5
L7 22 SEA SSS SAM L6
L8 STR L6
L9 STR L8
L10 0 SEA SSS SAM L9
D QUE STA L10
L11 STR L9
L12 27 SEA SSS SAM L11
L13 6458 SEA SSS FUL L11
SAV TEM HAN251F0/A L13
L14 STR L11
L15 0 SEA SUB=L13 CSS SAM L14
L16 5 SEA SUB=L13 CSS FUL L14
D SCA
L17 STR L11
L18 1 SEA SUB=L13 SSS SAM L17
D SCA
D QUE STA L18
L19 10 SEA SUB=L13 SSS FUL L17
D STR TOT
SEL RN 2 3 5 7 10
D QUE L5
L20 STR L5
SEL RN 2 3 5 7 10 L19
L21 5 SEA ABB=ON PLU=ON (291536-86-2/BI OR 339059-04-0/BI OR
412957-70-1/BI OR 412964-90-0/BI OR 412964-91-1/BI) AND L19
D SCA
L22 STR L20
L23 50 SEA SSS SAM L22
L24 2913029 SEA ABB=ON PLU=ON NR>=2 AND O>=1 AND N=1
L25 50 SEA SUB=L24 SSS SAM L22
L26 32835 SEA SUB=L24 SSS FUL L22
L27 STR L22
L28 0 SEA SUB=L26 CSS SAM L27
L29 55 SEA SUB=L26 CSS FUL L27
L30 43 SEA ABB=ON PLU=ON L29 NOT (PMS/CI OR D/ELS)
L31 QUE ABB=ON PLU=ON (PMS OR MAN OR IDS)/CI OR COMPD OR
COMPOUND OR UNSPECIFIED OR (D OR T)/ELS
L32 30 SEA ABB=ON PLU=ON L30 NOT L31
L33 29 SEA ABB=ON PLU=ON L32 NOT (MXS/CI OR MIXT)
D SCA L16
L34 STR L22
L35 1 SEA SSS SAM L34
D SCA
D QUE STA L35
L36 24 SEA SSS FUL L34
D STR TOT
L37 STR L22
L38 1 SEA SSS SAM L37
D SCA

L39 8 SEA SSS FUL L37

FILE 'HCAPLUS' ENTERED AT 09:56:07 ON 26 APR 2005

L40 25 SEA ABB=ON PLU=ON L16 OR L21 OR L36 OR L39

FILE 'REGISTRY' ENTERED AT 09:56:24 ON 26 APR 2005

FILE 'HCAPLUS' ENTERED AT 09:56:31 ON 26 APR 2005

L41 E THOMAS C/AU
287 SEA ABB=ON PLU=ON ("THOMAS C"/AU OR "THOMAS C E"/AU OR
"THOMAS C E JR"/AU)
E THOMAS COLLIN/AU
L42 7 SEA ABB=ON PLU=ON ("THOMAS COLLIN"/AU OR "THOMAS COLLIN
E"/AU)
E WINDSOR J/AU
L43 13 SEA ABB=ON PLU=ON ("WINDSOR J"/AU OR "WINDSOR J B"/AU OR
"WINDSOR J BRIAN"/AU OR "WINDSOR JAMES BRIAN"/AU)
E ROUX S/AU
L44 81 SEA ABB=ON PLU=ON ("ROUX S"/AU OR "ROUX S J"/AU)
E ROUX STAN/AU
L45 90 SEA ABB=ON PLU=ON ("ROUX STAN J"/AU OR "ROUX STANLEY"/AU OR
"ROUX STANLEY J"/AU OR "ROUX STANLEY J JR"/AU)
E HURLEY L/AU
L46 42 SEA ABB=ON PLU=ON ("HURLEY L"/AU OR "HURLEY L A"/AU OR
"HURLEY L GAYLE"/AU OR "HURLEY L H"/AU OR "HURLEY L L"/AU OR
"HURLEY L M"/AU OR "HURLEY L S"/AU)
E HURLEY LAWRENCE/AU
L47 2 SEA ABB=ON PLU=ON ("HURLEY LAWRENCE"/AU OR "HURLEY LAWRENCE
H"/AU)
E HURLEY LAURENCE/AU
L48 216 SEA ABB=ON PLU=ON ("HURLEY LAURENCE"/AU OR "HURLEY LAURENCE
H"/AU OR "HURLEY LAURENCE HAROLD"/AU OR "HURLEY LAWRENCE"/AU
OR "HURLEY LAWRENCE H"/AU)
L49 70830 SEA ABB=ON PLU=ON (UNIV (1A) TEXAS)/CS, PA
L50 7 SEA ABB=ON PLU=ON L40 AND (L41 OR L42 OR L43 OR L44 OR L45
OR L46 OR L47 OR L48 OR L49)
L51 18 SEA ABB=ON PLU=ON L40 NOT L50

FILE 'REGISTRY' ENTERED AT 09:59:23 ON 26 APR 2005

L52 20776 SEA ABB=ON PLU=ON PHOSPHATASE

FILE 'HCAPLUS' ENTERED AT 09:59:40 ON 26 APR 2005

E PHOSPHATASE/CT
E E3+ALL
L53 150725 SEA ABB=ON PLU=ON PHOSPHATASE+OLD, NT/CT
L54 0 SEA ABB=ON PLU=ON L51 AND (L52 OR L53)
E DRUG RESISTANCE/CT
E E3+ALL
L55 46374 SEA ABB=ON PLU=ON DRUG RESISTANCE+NT/CT
E E9+ALL
L56 7728 SEA ABB=ON PLU=ON DRUG TOLERANCE+NT/CT
L57 33572 SEA ABB=ON PLU=ON DRUG SCREENING+OLD/CT
L58 0 SEA ABB=ON PLU=ON L51 AND (L55 OR L56 OR L57)
E MAMMAL/CT
E E3+ALL
E E2+OLD, MT1/CT
E E+NT1
E MAMMAL/CT
E E3+ALL
E E2+OLD, NT1
L59 95350 SEA ABB=ON PLU=ON MAMMALIA+OLD, NT1/CT OR MAMMAL?/CW
E E56
E E3+ALL
L60 422659 SEA ABB=ON PLU=ON PRIMATES+OLD, NT/CT
E RODENTIA/CT
E E3+OLD, NT1
L61 QUE ABB=ON PLU=ON RODENTIA+OLD, NT1/CT OR RODENT###/CW
E UNASSIGNED MAMMALS (NON-CA HEADING)/CT
E E3+OLD, NT1
L62 QUE ABB=ON PLU=ON "UNASSIGNED MAMMALS (NON-CA HEADING)"+NT1/C

```

T
E PLANTS/CT
E E3+ALL
E E2
E E3+OLD, NT1
L63    QUE ABB=ON  PLU=ON  EMBRYOPHYTA+OLD, NT1/CT OR (EMBRYOPHYTA? OR
      PLANT#)/CW
      E CELL CULTURE/CT
      E E3+ALL
      E E3+ALL
L64    22680 SEA ABB=ON  PLU=ON  PLANT TISSUE CULTURE+OLD, NT/CT
      E ABC/CT
      E E5+ALL
      E TRANSPORT PROTEINS/CT
      E E3+ALL
L65    2858 SEA ABB=ON  PLU=ON  TRANSPORT PROTEINS+OLD, NT/CT (L) (ABC OR
      ATP (1A) BIND? (1A) CASSETT?)
L66    0 SEA ABB=ON  PLU=ON  L51 AND (L59 OR L60 OR L61 OR L62 OR L63
      OR L64 OR L65)

```

=> b reg
 FILE 'REGISTRY' ENTERED AT 10:16:38 ON 26 APR 2005
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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Property values tagged with IC are from the ZIC/VINITI data file
 provided by InfoChem.

STRUCTURE FILE UPDATES: 25 APR 2005 HIGHEST RN 849177-50-0
 DICTIONARY FILE UPDATES: 25 APR 2005 HIGHEST RN 849177-50-0

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

Please note that search-term pricing does apply when
 conducting SmartSELECT searches.

```

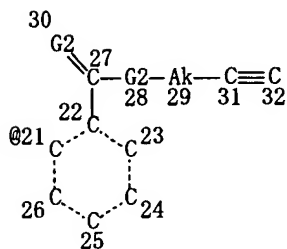
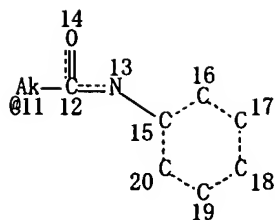
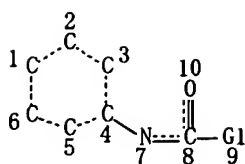
*****
*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*
*****

```

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
 information enter HELP PROP at an arrow prompt in the file or refer
 to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

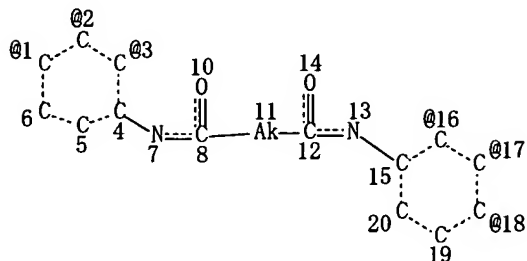
=> d que sta 116
 L11 STR

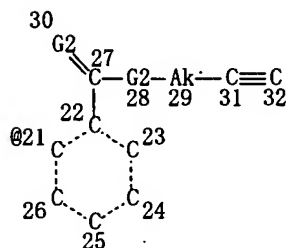
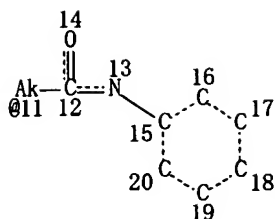
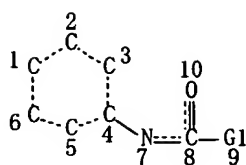


VAR G1=11/21
 VAR G2=0/S
 NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RSPEC 1 15 21
 NUMBER OF NODES IS 32

STEREO ATTRIBUTES: NONE
 L13 6458 SEA FILE=REGISTRY SSS FUL L11
 L14 STR

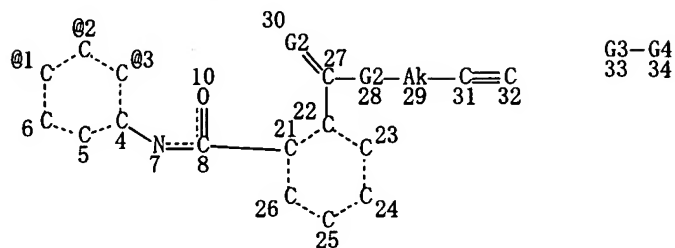




VAR G1=11/21
 VAR G2=0/S
 NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RSPEC 1 15 21
 NUMBER OF NODES IS 32

STEREO ATTRIBUTES: NONE
 L13 6458 SEA FILE=REGISTRY SSS FUL L11
 L17 STR

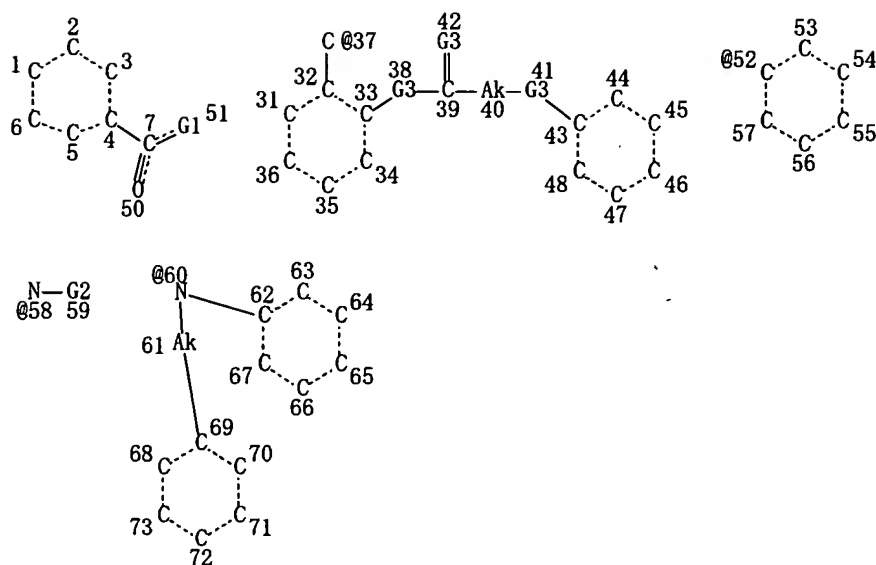


VAR G2=0/S
 VAR G3=1/2/3
 VAR G4=H/X
 NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RSPEC 21 4
 NUMBER OF NODES IS 23

STEREO ATTRIBUTES: NONE
 L19 10 SEA FILE=REGISTRY SUB=L13 SSS FUL L17
 L21 5 SEA FILE=REGISTRY ABB=ON PLU=ON (291536-86-2/BI OR 339059-04-0/BI OR 412957-70-1/BI OR 412964-90-0/BI OR 412964-91-1/BI)
 AND L19

=> d que sta 133
 L22 STR



VAR G1=58/60

VAR G2=37/52

VAR G3=O/S

NODE ATTRIBUTES:

CONNECT IS E2 RC AT 58

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC 4 68 62

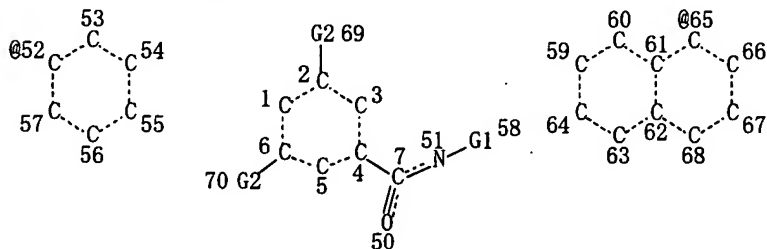
NUMBER OF NODES IS 49

STEREO ATTRIBUTES: NONE

L24 2913029 SEA FILE=REGISTRY ABB=ON PLU=ON NR>=2 AND O>=1 AND N=1

L26 32835 SEA FILE=REGISTRY SUB=L24 SSS FUL L22

L27 STR



VAR G1=52/65

VAR G2=H/AK

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC 52 4 59

NUMBER OF NODES IS 28

STEREO ATTRIBUTES: NONE

L29 55 SEA FILE=REGISTRY SUB=L26 CSS FUL L27

L30 43 SEA FILE=REGISTRY ABB=ON PLU=ON L29 NOT (PMS/CI OR D/ELS)

L31 QUE ABB=ON PLU=ON (PMS OR MAN OR IDS)/CI OR COMPD OR C
OMPOUND OR UNSPECIFIED OR (D OR T)/ELS

L32 30 SEA FILE=REGISTRY ABB=ON PLU=ON L30 NOT L31

L33 29 SEA FILE=REGISTRY ABB=ON PLU=ON L32 NOT (MXS/CI OR MIXT)

```
=> d aue sta l36
'AUE' IS NOT A VALID FORMAT FOR FILE 'REGISTRY'
'STA' IS NOT A VALID FORMAT FOR FILE 'REGISTRY'
```

The following are valid formats:

Substance information can be displayed by requesting individual fields or predefined formats. The predefined substance formats are: (RN = CAS Registry Number)

```
REG    - RN
SAM    - Index Name, MF, and structure - no RN
FIDE   - All substance data, except sequence data
IDE    - FIDE, but only 50 names
SQIDE   - IDE, plus sequence data
SQIDE3 - Same as SQIDE, but 3-letter amino acid codes are used
SQD    - Protein sequence data, includes RN
SQD3   - Same as SQD, but 3-letter amino acid codes are used
SQN    - Protein sequence name information, includes RN
```

```
CALC   - Table of calculated properties
EPROP   - Table of experimental properties
PROP   - EPROP and CALC
```

Any CA File format may be combined with any substance format to obtain CA references citing the substance. The substance formats must be cited first. The CA File predefined formats are:

```
ABS    -- Abstract
APPS   -- Application and Priority Information
BIB    -- CA Accession Number, plus Bibliographic Data
CAN    -- CA Accession Number
CBIB   -- CA Accession Number, plus Bibliographic Data (compressed)
IND    -- Index Data
IPC    -- International Patent Classification
PATS   -- PI, SO
STD    -- BIB, IPC, and NCL

IABS   -- ABS, indented, with text labels
IBIB   -- BIB, indented, with text labels
ISTD   -- STD format, indented

OBIB   ----- AN, plus Bibliographic Data (original)
OIBIB   ----- OIBIB, indented with text labels

SBIB   ----- BIB, no citations
SIBIB   ----- IBIB, no citations
```

The ALL format gives FIDE BIB ABS IND RE, plus sequence data when it is available.

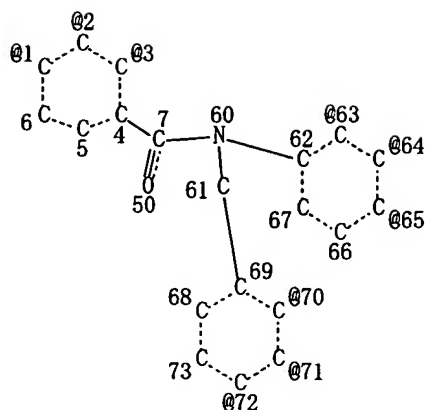
The MAX format is the same as ALL.

The IALL format is the same as ALL with BIB ABS and IND indented, with text labels.

For additional information, please consult the following help messages:

```
HELP DFIELDS -- To see a complete list of individual display fields.
HELP FORMATS -- To see detailed descriptions of the predefined formats.
ENTER DISPLAY FORMAT (IDE):end
```

```
=> d que sta l36
L34            STR
```



G1-G3
74 75

G2-G3
76 77

G4-G3
78 79

VAR G1=63/64/65
VAR G2=70/71/72
VAR G3=H/X
VAR G4=1/2/3
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

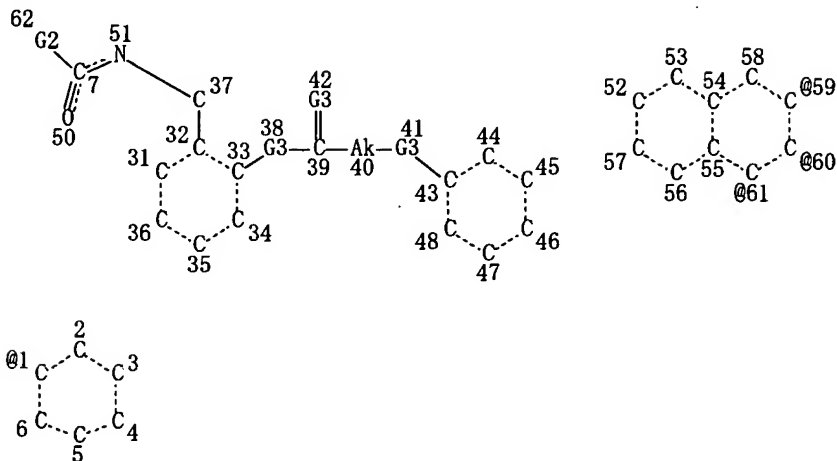
GRAPH ATTRIBUTES:
RSPEC 68 62 4
NUMBER OF NODES IS 28

STEREO ATTRIBUTES: NONE
L36 24 SEA FILE=REGISTRY SSS FUL L34

100.0% PROCESSED 9855 ITERATIONS
SEARCH TIME: 00.00.01

24 ANSWERS

=> d que sta 139
L37 STR



VAR G2=1/58/59/60/61
VAR G3=O/S
NODE ATTRIBUTES:
CONNECT IS E2 RC AT 37
CONNECT IS E2 RC AT 51
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC 52 4
NUMBER OF NODES IS 38

STEREO ATTRIBUTES: NONE

L39 8 SEA FILE=REGISTRY SSS FUL L37

100.0% PROCESSED 2807 ITERATIONS
SEARCH TIME: 00.00.01

8 ANSWERS

=> b hcap

FILE 'HCAPLUS' ENTERED AT 10:17:20 ON 26 APR 2005

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FILE COVERS 1907 - 26 Apr 2005 VOL 142 ISS 18
FILE LAST UPDATED: 25 Apr 2005 (20050425/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d all fhistr 150 tot

L50 ANSWER 1 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:141200 HCAPLUS

DN 142:254568

ED Entered STN: 18 Feb 2005

TI Methods and compositions for increasing the efficacy of biologically-active ingredients such as antitumor agents

IN Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan M.;
Thomas, Collin E.

PA Board of Regents, the University of Texas System, USA

SO PCT Int. Appl., 243 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C12N

CC 1-6 (Pharmacology)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2005014777	A2	20050217	WO 2003-US32667	20031016
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
PRAI US 2002-418803P	P	20021016		

Search done by Noble Jarrell

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2005014777	ICM	C12N
AB	The invention provides methods and compns. for modulating the sensitivity of cells to cytotoxic compds. and other active agents. In accordance with the invention, compns. are provided comprising combinations of ectophosphatase inhibitors and active agents. Active agents include antibiotics, fungicides, herbicides, insecticides, chemotherapeutic agents, and plant growth regulators. By increasing the efficacy of active agents, the invention allows use of compns. with lowered concns. of active ingredients.	
ST	antibiotic fungicide herbicide insecticide plant growth regulator combination antitumor	
IT	Trichoderma polysporum ((ATCC 20475; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)	
IT	Trichoderma harzianum ((ATCC 20476; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)	
IT	Pseudomonas fluorescens (1629RS; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)	
IT	Pseudomonas fluorescens (A506; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)	
IT	Zeolites (synthetic), biological studies Zeolites (synthetic), biological studies Zeolites (synthetic), biological studies RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Ag; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)	
IT	Surfactants (Alkanolamide; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)	
IT	Proteins RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Bacillus thuringiensis CryIF and CfylAb; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)	
IT	Balsams RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (Canadian; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)	
IT	Alcohols, biological studies Alcohols, biological studies RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (C11-15-secondary, ethoxylated; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)	
IT	Isoalkanes RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (C12-14; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)	
IT	Alcohols, biological studies RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (C12-15; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)	
IT	Alcohols, biological studies RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (C6-12; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)	
IT	Diglycerides Glycerides, biological studies	

Monoglycerides

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(C8-10 monoglycerides and diglycerides; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Alcohols, biological studies

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(C8-10; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT *Pseudomonas fluorescens*

(EG-1053; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT *Bacillus subtilis*

(GB03; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Pheromones, animal

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(German cockroach; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Fats and Glyceridic oils, biological studies

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Japan wax; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Sarcoma

(Kaposi's; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Paraffin oils

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Low mol. weight; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT *Bacillus subtilis*

(MBI 600; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Gene, animal

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(MDR, *Arabidopsis thaliana*; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Essential oils

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(*Melaleuca alternifolia*; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Balsams

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Peru; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT *Bacillus subtilis*

(QST 713 strain; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Named reagents and solutions

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Stoddard; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT *Paecilomyces lilacinus*

(Strain 251; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Lymphoproliferative disorders

(Waldenstrom's macroglobulinemia; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Kidney, neoplasm

(Wilms'; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

IT Leukemia

- (acute lymphocytic; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Urethanes
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(adhesives; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Immunostimulants
(adjuvants; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Silica gel, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(aerogel; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Flours and Meals
(alfalfa; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Amines, biological studies
Amines, biological studies
Petroleum resins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(aliphatic; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Delphinium
(alkaloid; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Helleborus
Schoenocaulon
(alkaloids; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Quaternary ammonium compounds, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(alkylbenzyltrimethyl, chlorides; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)
- IT Quaternary ammonium compounds, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(alkyltrimethyl, bromides; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)
- IT Quaternary ammonium compounds, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(alkyltrimethyl, chlorides; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)
- IT Glycosides
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(amino; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)
- IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(anise; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)
- IT Antitumor agents
(antibiotic; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Cytotoxic agents
(antimetabolites; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Antibiotics
Drug resistance
(antitumor; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Paecilomyces fumoso-roseus
(apopka strain 97; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

- IT Petroleum, biological studies
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (aromatic, alkylated; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Straw
 (barley; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Quaternary ammonium compounds, biological studies
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (benzyl(hydrogenated tallow alkyl)dimethyl, salts with bentonite; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Quaternary ammonium compounds, biological studies
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (benzyl-C12-14-alkyldimethyl; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (bergamot; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Prunus amygdalus
 (bitter almond; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Slags
 (blast-furnace; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Linseed oil
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (boiled; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (cade; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (cajuput; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Caseins, biological studies
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (calcium complexes; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (camphor; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Gelatins, biological studies
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (capsules; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Head, neoplasm
 (carcinoma; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Milk substitutes
 (cattle; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (cedar leaf; methods and compns. for increasing the efficacy of

- biol.-active ingredients such as antitumor agents)
- IT Essential oils
 - Essential oils
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (cedarwood; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Uterus, neoplasm
 - (cervix; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (chamomile; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Perfumes
 - (cherry fragrance oil 493; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Paraffin waxes, biological studies
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (chloro; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Carcinoma
 - Chorion, neoplasm
 - (choriocarcinoma; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Leukemia
 - (chronic lymphocytic; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Leukemia
 - (chronic myelocytic; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (cinnamon; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (citronella; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Cellulose pulp
 - (citrus; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (citrus; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (clove; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Naphtha
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (coal; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Amines, biological studies
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (coco alkyl, compds. with tetrachlorophenol (1:1); methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Amides, biological studies
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

- (coco, N-(hydroxyethyl); methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Fatty acids, biological studies
Fatty acids, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(coco, cadmium salts; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Intestine, neoplasm
(colon; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bentonite, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(compound with dimethyldioctadecylammonium chlorid; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Naphthenic acids, biological studies
Naphthenic acids, biological studies
Resin acids
Resin acids
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(copper salts; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Food analysis
(corn-containing, hydrolyzed; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Flours and Meals
(corn; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Flours and Meals
(cottonseed; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Avena sativa
Triticum aestivum
(cracked; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bread
(crumb; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Syzygium aromaticum
(crushed; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Isoalkanes
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(c11-12; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Quaternary ammonium compounds, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(dicoco alkyl dimethyl, chlorides; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Fatty acids, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(dimer acids; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Urogenital tract
(disease; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Coal tar
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(distillate, heavy oils; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Coal tar
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

- (distillate, upper; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Petroleum products
 - (distillates, C12-30-aromatic; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Petroleum products
 - (distillates, aliphatic; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Petroleum products
 - (distillates, aromatic; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Petroleum products
 - (distillates, refined; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Petroleum products
 - (distillates; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Lime (chemical)
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (dolomitic; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Blood
 - (dried; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT High throughput screening
 - (drug; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Nicotiana tabacum
 - (dust; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Uterus, neoplasm
 - (endometrium, adenocarcinoma; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Linseed oil
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (epoxidized; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Myeloproliferative disorders
 - (essential thrombocythemia; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Fatty acids, biological studies
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (esters; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Monoglycerides
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (ethoxylated coco; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Lanolin
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (ethoxylated, acetate; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Lanolin
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (ethoxylated; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (eucalyptus; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Allium cepa
- Glycine max
- Juniperus communis

- Malt
Myrica cerifera
(extract; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Lonchocarpus
(exts.; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Alcohols, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(fatty; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Fats and Glyceridic oils, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(fish; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Cottonseed
Glycine max
Secale cereale
Zea mays
(flour and meal; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Juglans regia
Wood
(flour; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Polyesters, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(foam, UL-94 HF1 listed; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Mycosis
(fungoides; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Repellents
(game; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Disease, animal
(genitourinary; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(geranium; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Vitis vinifera
(grape pomace; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Pseudotsuga menziesii
(ground bark; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Zea mays
(ground cobs; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Oryza sativa
(ground hulls; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Sesamum indicum
(ground plant; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Avena sativa
(ground; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Leukemia
(hairly-cell; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Wood
(hard, oil; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

- IT Carcinoma
(head; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Naphtha
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(heavy aromatic; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Petroleum, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(heavy paraffinic distillate; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Drug screening
(high throughput; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Coal tar pitch
(high-temperature; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Glycine max
(hulls; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Neoplasm
(humoral hypercalcemia of malignancy; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Resin acids
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(hydrogenated, Me esters; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Castor oil
Soybean oil
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(hydrogenated; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Syrups (sweetening agents)
(hydrolyzed starch; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Paraffin waxes, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(hydrotreated; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Pancreatic islet of Langerhans, neoplasm
(insulinoma; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Syrups (sweetening agents)
(invert; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Antibacterial agents
(iodophors; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Pigments, nonbiological
(iron oxide; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus subtilis
(isolate B246; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Ampelomyces quisqualis
(isolate M-10; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(jasmine; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Paints
(latex; methods and compns. for increasing the efficacy of biol.-active

- ingredients such as antitumor agents)
- IT Essential oils
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (lavender; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Naphthenic acids, biological studies
 - Naphthenic acids, biological studies
 - Naphthenic acids, biological studies
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (lead salts; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Eucalyptus
 - Mentha pulegium
 - (leaves; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (lemon; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (lemongrass; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Skin, disease
 - (lesion; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (lime; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Capsicum annuum annuum
 - (longum group, paprika; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Beta vulgaris saccharifera
 - Fish
 - Meat
 - Medicago sativa
 - (meal; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Flours and Meals
 - (meat meal; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Fats and Glyceridic oils, biological studies
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (menhaden; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Naphthenic acids, biological studies
 - Naphthenic acids, biological studies
 - Naphthenic acids, biological studies
 - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 - (mercury salts; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Acacia
 - Adrenal cortex, neoplasm
 - Agrobacterium tumefaciens
 - Agrobacterium vitis
 - Agrotis segetum granulovirus
 - Alkylating agents, biological
 - Allium cepa
 - Allium sativum
 - Ampelomyces quisqualis
 - Anthracene oil
 - Antibiotic resistance

Arabidopsis thaliana
Arachis hypogaea
Aschersonia aleurodis
Avena sativa
Bacillus sphaericus
Bacillus thuringiensis
Beeswax
Bladder, neoplasm
Bone meal
Brain, neoplasm
Bran
Capsicum
Caramel (color)
Carcinoid
Chamomile
Cheese
Cinnamon (horticultural common name)
Combination chemotherapy
Cork
Corncob
Cottonseed meal
Creosote
Cytotoxic agents
Daucus carota
Desmodium
Drug delivery systems
Drug screening
Drugs
Esophagus, neoplasm
Fumigants
Fungicides
Gentiana
Glues
Glues
Gossypium hirsutum
Herbicides
Hodgkin's disease
Honey
Human
Insecticides
Jet aircraft fuel
Liliopsida
Lung, neoplasm
Magnoliopsida
Mammary gland, neoplasm
Meat
Medicago sativa
Melanoma
Mentha piperita
Milk
Mint
Molasses
Multiple myeloma
Nicotiana tabacum
Nucleopolyhedrovirus
Oatmeal
Odor and Odorous substances
Oryza sativa
Ovary, neoplasm
Paenibacillus popilliae
Paints
Paper
Paperboard
Peanut butter
Phlebia gigantea
Phlebiopsis gigantea
Polycythemia vera
Prostate gland, neoplasm
Pseudomonas chlororaphis
Puccinia canaliculata

Quassia
 Quillaja
 Rabbit calicivirus
 Raisin
 Repellents
 Rosmarinus officinalis
 Sawdust
 Seaweed
 Sinorhizobium meliloti
 Skin, neoplasm
 Solanum tuberosum
 Solvent naphtha
 Solvent naphtha
 Solvent naphtha
 Solvent naphtha
 Sorghum bicolor
 Sphagnum
 Staphylococcus aureus
 Stomach, neoplasm
 Testis, neoplasm
 Theobroma cacao
 Theobroma cacao
 Thickening agents
 Thymus (plant)
 Tomato mosaic virus
 Trigonella foenum-graecum
 Triticum aestivum
 Verticillium lecanii
 Wheat flour
 Wheat flour
 Whey
 Wool
 Yeast
 Zea mays
 (methods and compns. for increasing the efficacy of biol.-active
 ingredients such as antitumor agents)

IT Amino acids, biological studies
 Androgens
 Asbestos
 Asphalt
 Bentonite, biological studies
 Canola oil
 Carbon black, biological studies
 Caseins, biological studies
 Castor oil
 Chlorinated natural rubber
 Coal tar
 Coal tar
 Coal tar
 Coconut oil
 Cod liver oil
 Collagens, biological studies
 Corn oil
 Corticosteroids, biological studies
 Cottonseed oil
 Creosote oil
 Cytokinins
 Diatomite
 Epoxy resins, biological studies
 Essential oils
 Feldspar-group minerals
 Fertilizers
 Gasoline
 Gelatins, biological studies
 Gibberellins
 Glycopeptides
 Granite, biological studies
 Growth regulators, plant
 Humic acids
 Hydrocarbon oils

Hydrocarbon oils
Jojoba oil
Kaolin, biological studies
Kerosene
Lard
Ligroine
Lime (chemical)
Linseed oil
Macrolides
Mica-group minerals, biological studies
Naphthenic acids, biological studies
Naphthenic oils
Natural products, pharmaceutical
Nitrile rubber, biological studies
Olive oil
Palm oil
Paraffin oils
Paraffin oils
Paraffin waxes, biological studies
Peanut oil
Perlite
Petrolatum
Petroleum hydrocarbons
Petroleum resins
Petroleum spirits
Phenols, biological studies
Phosphoproteins
Plastics, biological studies
Polyamides, biological studies
Polyamides, biological studies
Polyamines
Polyenes
Polyoxyalkylenes, biological studies
Polysiloxanes, biological studies
Polysiloxanes, biological studies
Polysiloxanes, biological studies
Polyurethanes, biological studies
Polyvinyl butyrals
Progestogens
Protein hydrolyzates
Pumice
Pyrethrins
Pyrethrins
Pyrethrins
Pyrethrins
Rape oil
Resins
Rosin
Rubber, biological studies
Safflower oil
Sand
Saponins
Shale
Shellac
Silica gel, biological studies
Soaps
Soapstone
Soybean oil
Tall oil
Tallow
Tetracyclines
Tung oil
Turpentine
Waxes
Wood tar
Zeins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)

- IT Fats and Glyceridic oils, biological studies
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (mink; methods and compns. for increasing the efficacy of biol.-active
 ingredients such as antitumor agents)
- IT Anagrapha falcifera
 (multi-nuclear polyhedrosis virus (AFMNPV); methods and compns. for
 increasing the efficacy of biol.-active ingredients such as antitumor
 agents)
- IT Skin, neoplasm
 (mycosis fungoides; methods and compns. for increasing the efficacy of
 biol.-active ingredients such as antitumor agents)
- IT Carcinoma
 (neck; methods and compns. for increasing the efficacy of biol.-active
 ingredients such as antitumor agents)
- IT Abies
 (needle oil; methods and compns. for increasing the efficacy of
 biol.-active ingredients such as antitumor agents)
- IT Neck, anatomical
 (neoplasm, carcinoma; methods and compns. for increasing the efficacy
 of biol.-active ingredients such as antitumor agents)
- IT Nerve, neoplasm
 (neuroblastoma; methods and compns. for increasing the efficacy of
 biol.-active ingredients such as antitumor agents)
- IT Chloramines
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (nitrogen mustards; methods and compns. for increasing the efficacy of
 biol.-active ingredients such as antitumor agents)
- IT Fuel oil
 (number 1; methods and compns. for increasing the efficacy of biol.-active
 ingredients such as antitumor agents)
- IT Diesel fuel
 Fuel oil
 (number 2; methods and compns. for increasing the efficacy of biol.-active
 ingredients such as antitumor agents)
- IT Fuel oil
 (number 4; methods and compns. for increasing the efficacy of biol.-active
 ingredients such as antitumor agents)
- IT Fuel oil
 (number 6; methods and compns. for increasing the efficacy of biol.-active
 ingredients such as antitumor agents)
- IT Lymphoma
 (non-Hodgkin's; methods and compns. for increasing the efficacy of
 biol.-active ingredients such as antitumor agents)
- IT Surfactants
 (nonionic; methods and compns. for increasing the efficacy of
 biol.-active ingredients such as antitumor agents)
- IT Alkanes, biological studies
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (normal C5-20; methods and compns. for increasing the efficacy of
 biol.-active ingredients such as antitumor agents)
- IT Neodiprion sertifer
 (nuclear polyhedrosis virus; methods and compns. for increasing the
 efficacy of biol.-active ingredients such as antitumor agents)
- IT Aloe barbadensis
 Lavandula hybrida
 (oil; methods and compns. for increasing the efficacy of biol.-active
 ingredients such as antitumor agents)
- IT Resins
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (oleoresins, capsicum; methods and compns. for increasing the efficacy
 of biol.-active ingredients such as antitumor agents)
- IT Bone, neoplasm
 Sarcoma
 (osteosarcoma; methods and compns. for increasing the efficacy of
 biol.-active ingredients such as antitumor agents)
- IT Rosin

- RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(partially hydrogenated; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Citrus limon
(peel oil; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pepper, Piper nigrum berry; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(peppermint; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Sulfonic acids, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(petroleum, sodium salts; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Tar
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pine, oil; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
Tar
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pine; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Rosin
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polymerized; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Vinyl compounds, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polymers, synthetic; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Vinyl compounds, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polymers; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Malus pumila
(pomace; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Feed
(poultry; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Gelatins, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(powdered; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Beta vulgaris
(powder; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Zea mays
(product, hydrolyzed; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Carcinoma
(pulmonary small-cell; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Citrus sinensis
(pulp; methods and compns. for increasing the efficacy of biol.-active

- ingredients such as antitumor agents)
- IT Xanthomonas campestris
(pv Poannua; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Antitumor agents
(resistance to; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Sarcoma
(rhabdomyosarcoma; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(rosemary; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(rosin; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)
- IT Flours and Meals
(rye; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)
- IT Naphthenic acids, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(salts, compound with dodecyltrimethylbenzylammonium; methods and compns.
for increasing the efficacy of biol.-active ingredients such as
antitumor agents)
- IT Sulfonic acids, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(salts; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)
- IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(sassafras; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Meat
(scraps; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Weed
(seed oil; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Panicum
(seed; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)
- IT Bacillus sphaericus
(serotype H-5A5B, strain 2362; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)
- IT Fats and Glyceridic oils, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(sesame; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Fertilizers
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)
(sewage sludge; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Egg
(shell; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)
- IT Juglans regia
(shells, ground; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT Arachis hypogaea
(shells; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)

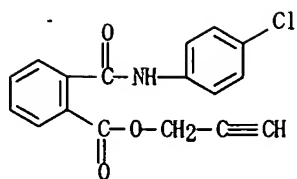
- IT Lung, neoplasm
(small-cell carcinoma; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Caseins, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(sodium complexes; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Polyphosphoric acids
Sulfonic acids, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(sodium salts; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Soaps
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(sodium tallow; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Animal tissue, disease
(soft, neoplasm, sarcoma; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Sarcoma
(soft-tissue; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Amines, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(soya alkyl, ethoxylated; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Fatty acids, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(soya, Me esters; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Flours and Meals
(soybean; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(soybean; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(spearmint; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Fats and Glyceridic oils, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(sperm oil; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Phlebiopsis gigantea
(spores and mycelium spores; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Gliocladium catenulatum
Nosema locustae
Paenibacillus popilliae
(spores; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Pseudomonas chlororaphis
(strain 63-28; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Pseudomonas syringae
(strain 742 RS; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Pseudomonas syringae
(strain AGS31 & strain PS31; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

- IT *Bacillus cereus*
(strain BP0; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT *Pseudomonas syringae*
(strain ESC-10; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT *Pseudomonas syringae*
(strain ESC-11; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT *Agrobacterium tumefaciens*
(strain K1026; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT *Streptomyces griseoviridis*
(strain K61; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT *Agrobacterium tumefaciens*
(strain K84; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT *Pseudomonas fluorescens*
(strain NCIB 12089; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT *Pseudomonas chlororaphis*
(strain Tx-1; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT *Bacillus cereus*
(strain UW85; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT *Hordeum vulgare*
(straw; methods and compns. for increasing the efficacy of biol.-active
ingredients such as antitumor agents)
- IT *Bacillus thuringiensis*
(sub Kurstaki strain EG7673 coleopteran active toxin; methods and
compns. for increasing the efficacy of biol.-active ingredients such as
antitumor agents)
- IT *Bacillus thuringiensis*
(sub Kurstaki strain EG7673 lepidopteran active toxin; methods and
compns. for increasing the efficacy of biol.-active ingredients such as
antitumor agents)
- IT *Bacillus thuringiensis*
(subsp Aizawai, GC-91 protein; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)
- IT *Bacillus thuringiensis*
(subsp Aizawai, serotype H-7; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)
- IT *Bacillus thuringiensis*
(subsp Aizawai; methods and compns. for increasing the efficacy of
biol.-active ingredients such as antitumor agents)
- IT *Bacillus thuringiensis*
(subsp Israelensis, serotype H-14; methods and compns. for increasing
the efficacy of biol.-active ingredients such as antitumor agents)
- IT *Bacillus thuringiensis*
(subsp Kurstaki strain SA-12; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)
- IT *Bacillus thuringiensis*
(subsp Kurstaki, genetically engineered strain AGRO1 by Agrevo; methods
and compns. for increasing the efficacy of biol.-active ingredients
such as antitumor agents)
- IT *Bacillus thuringiensis*
(subsp Kurstaki, genetically engineered strain AGRO2 by Agrevo; methods
and compns. for increasing the efficacy of biol.-active ingredients
such as antitumor agents)
- IT *Bacillus thuringiensis*
(subsp Kurstaki, serotype; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)
- IT *Bacillus thuringiensis*
(subsp Kurstaki, strain EG2348; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)
- IT *Bacillus thuringiensis*
(subsp Kurstaki, strain EG2371; methods and compns. for increasing the
efficacy of biol.-active ingredients such as antitumor agents)

- IT Bacillus thuringiensis
(subsp Kurstaki, strain EG2424; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subsp Kurstaki, strain SA-1 1; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subsp Morrisoni, serotype 8a8b; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
Bacillus thuringiensis
(subsp San Diego; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subsp Tenebrionis; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subspec Tenebrionis delta endotoxin; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subspecies Israelensis strain EG2215; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subspecies Israelensis, strain IPS-78; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subspecies Kurstaki strain HD-1, lepidopteran active toxin; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subspecies kurstaki strain BMP 123; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(subspecies kurstaki, genetically engineered strain EG7841 lepidopteran active toxin; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Cod liver oil
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(sulfonated; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Petroleum, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(sulfurized; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Helianthus annuus
(sunflower seed; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Seed
(sunflower; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Fatty acids, biological studies
Fatty acids, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(tall-oil, copper salts; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Fatty acids, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(tall-oil; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(thyme, Thymus vulgaris; methods and compns. for increasing the

- efficacy of biol.-active ingredients such as antitumor agents)
- IT Burkholderia cepacia
(type Wisconsin; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Petroleum, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(unrefined; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Carcinoma
(uterine endometrial adenocarcinoma; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(var Kurstaki strain M-200 protein toxin; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(var Kurstaki, genetically engineered strain ECX; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(var Kurstaki, genetically engineered strain EG7826 Lepidopteran active toxin; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Bacillus thuringiensis
(var kurstaki delta endotoxin protein; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Fats and Glyceridic oils, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vegetable, hydrogenated; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Fats and Glyceridic oils, biological studies
Fats and Glyceridic oils, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vegetable; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Alkaloids, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vinca; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Dyes
(water-soluble; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Glycerides, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(wheat germ-oil; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Fats and Glyceridic oils, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(wheat germ; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Pepper (spice)
(white; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Essential oils
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(wintergreen; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Linseed oil
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(with driers; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)

- IT Creosote
(wood; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Naphthenic acids, biological studies
Naphthenic acids, biological studies
Resin acids
Resin acids
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(zinc salts; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Interferons
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(α ; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT Lactams
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(β -; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT 74-82-8D, Methane, triaryl derivs. 85-86-9, Sudan III 109-76-2D, 1,3-Propanediamine, N-alkyl derivs., salts 115-31-1, Thanite 645-92-1 814-49-3 2439-00-1 3032-40-4 3397-62-4 3768-14-7 4147-57-3 7206-15-7 7206-27-1 8003-06-3 8003-19-8D, derivs. 8064-49-1, Tenox 2 8066-01-1 8076-84-4, Tenox 4 9003-01-4 9003-05-8, Polyacrylamide 11144-43-7 12770-24-0, Toximul-P 26532-25-2 31895-21-3, Thiocyclam 35513-93-0D, N-C6-18alkyl derivs. 37300-16-6, Versalon 1112 37350-66-6 39384-60-6, Tenox S I 41481-51-0 50863-22-4 51068-60-1, Sulglycapin 51796-19-1, Thixatrol ST 51811-79-1, T-Mulz 565 52236-30-3 52508-35-7 58175-59-0 58175-60-3 60864-33-7, Triton CF-10 62031-70-3, Wingstay V 63100-33-4, Triton X 363 66227-09-6 67053-55-8, Toximul D 70193-21-4, Trichlamide 72459-58-6, Triazoxide 76608-88-3, Triapenthenol 76930-44-4, Po-san A 81412-43-3, Tridemorph 83869-01-6, TF 310 85411-41-2, T-Mulz A0 2 87917-06-4, Tensiofix B 7416 87917-07-5, Tensiofix B 7453 92302-40-4 92529-51-6, Sure-Sol 180 94189-31-8, Stepantan A 99105-77-8, Sulcotrione 103737-35-5, T-Mulz VO 116170-30-0, Thicyofen 118134-30-8, Spiroxamine 119515-38-7, Propidine 123249-43-4, Thidiazimin 130561-48-7, Cintofen 139963-64-7 154201-55-5 168832-50-6 171248-07-0 291536-79-3 291536-80-6 291536-82-8 291536-84-0 **291536-86-2** 291536-87-3 291536-88-4 291536-89-5 291536-90-8 291536-91-9 313493-42-4 358622-53-4 403806-37-1 845739-24-4 845739-25-5 845739-26-6 845739-27-7 845739-28-8 845739-29-9
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT 9003-18-3
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nitrile rubber; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT 11121-88-3, Versamid
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(resin binder; methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- IT **291536-86-2**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(methods and compns. for increasing the efficacy of biol.-active ingredients such as antitumor agents)
- RN 291536-86-2 HCAPLUS
- CN Benzoic acid, 2-[[[(4-chlorophenyl)amino]carbonyl]-, 2-propynyl ester (9CI)
(CA INDEX NAME)



L50 ANSWER 2 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2003:23438 HCAPLUS
 DN 138:68713
 ED Entered STN: 10 Jan 2003
 TI Modulating resistance of tumor and pathogen cells to foreign compounds by manipulation of ATP gradients via regulation of ABC transporters and ecto-phosphatases
 IN Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan M.
 PA University of Texas, USA
 SO U.S. Pat. Appl. Publ., 41 pp., Cont. in-part of U.S. Ser. No. 261,825.
 CODEN: USXXCO
 DT Patent
 LA English
 IC ICM C12N009-12
 ICS C12N009-00
 INCL 435194000; 435183000
 CC 6-1 (General Biochemistry)
 Section cross-reference(s): 1, 5, 7, 10, 11, 13

FAN. CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003008369	A1	20030109	US 2002-134019	20020425
	US 2002006901	A1	20020117	US 1999-244792	19990205
	WO 2003091403	A2	20031106	WO 2003-US12780	20030425
	WO 2003091403	A3	20041104		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
PRAI	US 1999-244792	A2	19990205		
	US 1999-261825	A2	19990303		
	US 2002-134019	A1	20020425		

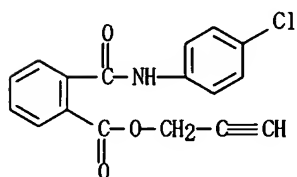
CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2003008369	ICM	C12N009-12
	ICS	C12N009-00
	INCL	435194000; 435183000
US 2003008369	NCL	435/194.000; 435/183.000
	ECLA	A61K009/00M20B; A61K031/165+A; A61K031/165H; A61K031/165P; A61K031/18; A61K031/215L; A61K031/215L10; A61K031/24; A61K031/35P10; A61K031/38H; A61K031/40T10; A61K031/425F; A61K038/13; A61K038/13+M; C07K014/705; C12N009/14; C12N015/82C8B4
US 2002006901	NCL	514/011.000; 514/009.000; 424/045.000
	ECLA	A61K009/00M20B; A61K038/13; A61K038/13+M

AB The present invention relates to methods for modulating the growth of tumor and pathogen cells and the resistance of cells to foreign compds., i.e. drugs, antibiotics, etc. by altering the ATP gradient across biol. membranes. The altering of the ATP gradient across biol. membranes is achieved through the manipulation of ecto-phosphatase (e.g., human apyrase) activity and ABC transporter mol. (e.g., Arabidopsis AtPGP-1) activity which may also be useful to confer herbicide resistance to

- plants, confer antibiotic resistance to bacteria, confer drug resistance to yeast cells, or to reduce resistance in cells to facilitate chemotherapeutic treatments, and to reduce resistance in bacteria and yeast. The present invention is also directed to the methods for identifying ecto-phosphatase inhibitors and uses thereof. Nineteen ecto-phosphatase inhibitory mols. are provided which are useful in reversing multi-drug resistance in Arabidopsis and yeast.
- ST drug resistance ATP gradient ABC transporter phosphatase; antibiotic resistance ATP gradient ABC transporter phosphatase; herbicide resistance ATP gradient ABC transporter phosphatase; tumor multidrug resistance ATP gradient modulation
- IT Transport proteins
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (ABC (ATP-binding cassette) transporters; modulating resistance of tumor and pathogen cells to foreign compds. by manipulation of ATP gradients via regulation of ABC transporters and ecto-phosphatases)
- IT Neoplasm
 (bone marrow; modulating resistance of tumor and pathogen cells to foreign compds. by manipulation of ATP gradients via regulation of ABC transporters and ecto-phosphatases)
- IT Intestine, neoplasm
 (colon; modulating resistance of tumor and pathogen cells to foreign compds. by manipulation of ATP gradients via regulation of ABC transporters and ecto-phosphatases)
- IT Antibiotics
 Antitumor agents
 Herbicides
 (increasing effectiveness of; modulating resistance of tumor and pathogen cells to foreign compds. by manipulation of ATP gradients via regulation of ABC transporters and ecto-phosphatases)
- IT Antibiotic resistance
 Bladder, neoplasm
 Bone, neoplasm
 Brain, neoplasm
 Drug resistance
 Herbicide resistance
 Human
 Liver, neoplasm
 Lung, neoplasm
 Lymphoma
 Mammalia
 Mammary gland, neoplasm
 Multidrug resistance
 Ovary, neoplasm
 Pancreas, neoplasm
 Prostate gland, neoplasm
 Skin, neoplasm
 Staphylococcus
 Staphylococcus aureus
 Stomach, neoplasm
 Testis, neoplasm
 (modulating resistance of tumor and pathogen cells to foreign compds. by manipulation of ATP gradients via regulation of ABC transporters and ecto-phosphatases)
- IT P-glycoproteins
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (modulating resistance of tumor and pathogen cells to foreign compds. by manipulation of ATP gradients via regulation of ABC transporters and ecto-phosphatases)
- IT Bone marrow, disease
 (neoplasm; modulating resistance of tumor and pathogen cells to foreign compds. by manipulation of ATP gradients via regulation of ABC transporters and ecto-phosphatases)
- IT Animal tissue, disease
 (soft, neoplasm; modulating resistance of tumor and pathogen cells to foreign compds. by manipulation of ATP gradients via regulation of ABC transporters and ecto-phosphatases)
- IT Neoplasm
 (soft-tissue; modulating resistance of tumor and pathogen cells to foreign compds. by manipulation of ATP gradients via regulation of ABC

- transporters and ecto-phosphatases)
- IT 865-21-4, Vinblastine
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (increasing effectiveness of; modulating resistance of tumor and pathogen cells to foreign compds. by manipulation of ATP gradients via regulation of ABC transporters and ecto-phosphatases)
- IT 61-32-5, Methicillin
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (inhibiting growth of cells resistant to; modulating resistance of tumor and pathogen cells to foreign compds. by manipulation of ATP gradients via regulation of ABC transporters and ecto-phosphatases)
- IT 41481-51-0 139963-64-7 154201-55-5 168832-50-6 171248-07-0
 291536-79-3 291536-80-6 291536-81-7 291536-82-8 291536-84-0
 291536-85-1 **291536-86-2** 291536-87-3 291536-88-4
 291536-89-5 291536-90-8 291536-91-9 **291536-92-0**
 313493-42-4
 RL: AGR (Agricultural use); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (modulating resistance of tumor and pathogen cells to foreign compds. by manipulation of ATP gradients via regulation of ABC transporters and ecto-phosphatases)
- IT 56-65-5, 5'-ATP, biological studies 9000-95-7, Apyrase 9013-05-2, Phosphatase
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (modulating resistance of tumor and pathogen cells to foreign compds. by manipulation of ATP gradients via regulation of ABC transporters and ecto-phosphatases)
- IT **291536-86-2**
 RL: AGR (Agricultural use); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (modulating resistance of tumor and pathogen cells to foreign compds. by manipulation of ATP gradients via regulation of ABC transporters and ecto-phosphatases)
- RN 291536-86-2 HCAPLUS
- CN Benzoic acid, 2-[[[(4-chlorophenyl)amino]carbonyl]-, 2-propynyl ester (9CI)
 (CA INDEX NAME)

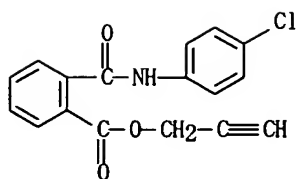


L50 ANSWER 3 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2002:833490 HCAPLUS
 DN 137:306061
 ED Entered STN: 01 Nov 2002
 TI Pesticidal and herbicidal activity through modulation of animal and plant cell membrane transport
 IN **Windsor, J. Brian; Roux, Stan J.**; Lloyd, Alan M.
 PA Board of Regents, The University of Texas System, USA
 SO U.S. Pat. Appl. Publ., 41 pp., Cont.-in-part of U. S. Ser. No. 244,791.
 CODEN: USXXCO
 DT Patent
 LA English
 IC ICM A01N025-00
 INCL 504116100
 CC 5-4 (Agrochemical Bioregulators)
 FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002160915	A1	20021031	US 2001-793336	20010226
	US 6448472	B1	20020910	US 1999-244791	19990205
PRAI	US 1999-244791	A2	19990205		

US 2000-185299P P 20000228

CLASS	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	US 2002160915	ICM	A01N025-00
		INCL	504116100
	US 2002160915	NCL	504/116.100
		ECLA	A01N037/28; A01N037/30; A01N061/00; C07K014/415; C12N009/14; C12N015/82C4B; C12N015/82C8B4; C12N015/82C8B; C12Q001/42
	US 6448472	NCL	800/278.000; 435/320.100; 435/418.000; 435/419.000; 435/468.000; 800/298.000; 800/300.000
		ECLA	C07K014/415; C12N009/14; C12N015/82C8B4
AB	The present invention relates to the modulation of pesticidal and herbicidal activity by treatment of a membrane transport system in a cell. This entails modifying the extra-cellular phosphatases found in the membranes of these cells. By modifying the ATP gradient across the biol. membrane of a target plant, bacteria, insect or mammalian cell via inhibiting one or more extra-cellular phosphatases, it is possible to alter the sensitivity to a pesticide or herbicide. The method also comprises inhibiting an ABC transporter in the target cell. The method can also be used for identifying chems. with pesticidal activity.		
ST	pesticidal herbicidal activity modulation animal plant plasma membrane transport; pesticide herbicide ectophosphatase ABC transporter inhibition		
IT	Transport proteins		
	RL: BSU (Biological study, unclassified); BIOL (Biological study) (ABC (ATP-binding cassette) transporters; enhancement of pesticidal and herbicidal activity by altering the ATP gradient across biol. membranes and inhibiting an ABC transporter)		
IT	Herbicides		
	Pesticides (ectophosphatase inhibitors which enhance pesticidal and herbicidal activity by altering the ATP gradient across biol. membranes)		
IT	Pesticides (toxicity; ectophosphatase inhibitors which enhance pesticidal and herbicidal activity by altering the ATP gradient across biol. membranes)		
IT	41481-51-0	139963-64-7	154201-55-5 168832-50-6 171248-07-0
	291536-79-3	291536-80-6	291536-81-7 291536-82-8 291536-83-9
	291536-84-0	291536-86-2	291536-87-3 291536-88-4
	291536-89-5	291536-90-8	291536-91-9 291536-92-0
	358622-53-4		
	RL: AGR (Agricultural use); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses) (ectophosphatase inhibitor which enhances pesticidal and herbicidal activity by altering the ATP gradient across biol. membranes)		
IT	56-65-5, ATP, biological studies		
	RL: BSU (Biological study, unclassified); BIOL (Biological study) (ectophosphatase inhibitors which enhance pesticidal and herbicidal activity by altering the ATP gradient across biol. membranes)		
IT	9032-64-8, Nucleotide pyrophosphatase 37289-25-1, ATP pyrophosphatase		
	RL: BSU (Biological study, unclassified); BIOL (Biological study) (extracellular; ectophosphatase inhibitors which enhance pesticidal and herbicidal activity by altering the ATP gradient across biol. membranes)		
IT	291536-86-2		
	RL: AGR (Agricultural use); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses) (ectophosphatase inhibitor which enhances pesticidal and herbicidal activity by altering the ATP gradient across biol. membranes)		
RN	291536-86-2 HCAPLUS		
CN	Benzoic acid, 2-[[[(4-chlorophenyl)amino]carbonyl]-, 2-propynyl ester (9CI) (CA INDEX NAME)		



L50 ANSWER 4 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2002:185280 HCAPLUS
 DN 136:244034
 ED Entered STN: 15 Mar 2002
 TI Method for increasing the effectiveness of antiinfective agents by
 inhibiting ecto-phosphatase and/or ABC transporter activities
 IN Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan M.
 PA Board of Regents, the University of Texas System, USA
 SO PCT Int. Appl., 65 pp.
 CODEN: PIXXD2

DT Patent
 LA English
 IC ICM C12N
 CC 9-12 (Biochemical Methods)
 Section cross-reference(s): 1, 5, 7, 10, 11

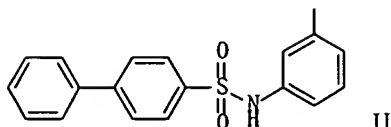
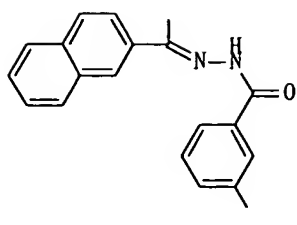
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002020726	A2	20020314	WO 2001-US28242	20010907
	WO 2002020726	A3	20020606		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	AU 2001090710	A5	20020322	AU 2001-90710	20010907
	US 2002077365	A1	20020620	US 2001-949268	20010907
PRAI	US 2000-231088P	P	20000908		
	WO 2001-US28242	W	20010907		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2002020726	ICM	C12N
US 2002077365	NCL	514/621.000; 504/329.000; 514/553.000; 504/149.000
	ECLA	A01N037/10; A01N037/22; A01N037/28; A01N037/28+M; A01N037/30; A01N037/38; A01N037/46; A01N041/06; A01N043/12; A01N043/16; A01N043/38; A01N043/78; A01N047/06; A01N047/30; A01N047/44; A61K031/185; C12N009/14; C12N015/82C8; C12N015/82C8B4

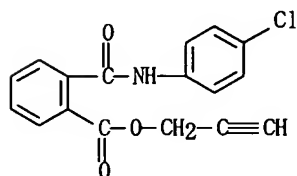
GI



- AB The present invention relates to methods for decreasing the resistance of microbial strains to antiinfectives such as antibiotics and antifungals by altering the ATP gradient across biological membranes. The altering of the ATP gradient across biological membranes is achieved through the inhibition of ecto-phosphatase activity and/or ABC transporter molecular activity which may be useful to reduce resistance in bacteria and yeast to aid in the treatment of certain infections and disease and to lower the concentration of antiinfectives necessary to inhibit the growth of microbial strains. Apyrase inhibitor I increased the growth inhibitory effect of the fungicide chlorothalonil by over 50%. Surflan was an equally effective weed killer against *Arabidopsis thaliana* at a five-fold less concentration in the presence of II.
- ST antiinfective enhancement inhibition ectophosphatase ABC transporter; ATP gradient biological membrane antibiotic antifungal effectiveness; yeast bacteria resistance ectophosphatase ABC transporter; chlorothalonil fungicide enhancement apyrase inhibitor; surflan herbicide adjuvant apyrase inhibitor
- IT Transport proteins
 RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
 (ABC (ATP-binding cassette) transporters; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT Gene, plant
 RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation)
 (AtPGP-1; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT Combinatorial library
 (DIVERSet format F, high throughput screening for apyrase inhibitors; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT P-glycoproteins
 RL: ADV (Adverse effect, including toxicity); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation)
 (MDR1; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT Agrochemical formulations
 (adjuvants; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT Fungicides
 (agrochem.; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT Membrane, biological
 (altering ATP gradient across; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)

- IT Plant cell
(as target cell; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT Infection
(bacterial; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT High throughput screening
(drug, for apyrase inhibitors; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT Biological transport
(efflux; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT Gene, plant
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation)
(for apyrase; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT Drug screening
(high throughput, for apyrase inhibitors; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT Anti-infective agents
(medical; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT Acaricides
Algicides
Animal
Anti-infective agents
Antibacterial agents
Antibiotic resistance
Antibiotics
Antimicrobial agents
Arabidopsis thaliana
Bactericide resistance
Drug delivery systems
Drug resistance
Embryophyta
Eubacteria
Fungicide resistance
Fungicides
Herbicide resistance
Herbicides
Human
Insecticides
Mammalia
Multidrug resistance
Nematocides
Pesticides
Pisum sativum
Saccharomyces cerevisiae
Yeast
(method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT Multidrug resistance proteins
RL: ADV (Adverse effect, including toxicity); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BIOL (Biological study); PREP (Preparation)
(method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT Pesticides
(toxicity; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT Infection
(yeast; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT 56-65-5, 5'-ATP, biological studies
RL: BSU (Biological study, unclassified); CUS (Combinatorial use); BIOL

- (Biological study); CMBI (Combinatorial study); USES (Uses)
(altering gradient of, across biol. membrane; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT 41481-51-0 139963-64-7 154201-55-5 168832-50-6 171248-07-0
291536-79-3 291536-81-7 291536-82-8 291536-84-0 **291536-86-2**
291536-87-3 291536-88-4 291536-89-5 291536-90-8 291536-91-9
313493-42-4 403806-37-1
RL: BSU (Biological study, unclassified); CST (Combinatorial study, unclassified); BIOL (Biological study); CMBI (Combinatorial study)
(as apyrase inhibitor; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT 9000-95-7, Apyrase
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); CUS (Combinatorial use); BIOL (Biological study); CMBI (Combinatorial study); USES (Uses)
(ecto-; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT 9000-83-3, ATPase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(inhibition of, of ectophosphatase; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT 19044-88-3, Surflan 40487-42-1, Pendimethalin
RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL. (Biological study); USES (Uses)
(method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT 291536-80-6 291536-85-1
RL: AGR (Agricultural use); DMA (Drug mechanism of action); BIOL (Biological study); USES (Uses)
(method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT 145-63-1, Suramin
RL: AGR (Agricultural use); DMA (Drug mechanism of action); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT 66-81-9, Cycloheximide 2365-40-4, N6-(2-Isopentenyl)adenine 3768-14-7, α , β -Methyleneadenosine 5'-diphosphate 28380-24-7, Nigericin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT 1897-45-6, Chlorothalonil
RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- IT **291536-86-2**
RL: BSU (Biological study, unclassified); CST (Combinatorial study, unclassified); BIOL (Biological study); CMBI (Combinatorial study)
(as apyrase inhibitor; method for increasing effectiveness of antiinfective agents by inhibiting ecto-phosphatase and/or ABC transporter activities)
- RN 291536-86-2 HCAPLUS
CN Benzoic acid, 2-[[4-(4-chlorophenyl)amino]carbonyl]-, 2-propynyl ester (9CI)
(CA INDEX NAME)



L50 ANSWER 5 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2001:676991 HCAPLUS
 DN 135:222868
 ED Entered STN: 14 Sep 2001
 TI Pesticide adjuvant activity through modulation of animal and plant cell
 membrane transport
 IN Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan M.
 PA Board of Regents of the University of Texas System, USA
 SO PCT Int. Appl., 76 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C12Q001-42
 ICS C12Q001-34; C12Q001-00
 CC 5-4 (Agrochemical Bioregulators)
 FAN. CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001066792	A1	20010913	WO 2001-US7423	20010307
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	US 2002103082	A1	20020801	US 2001-800327	20010306
	CA 2373424	AA	20010913	CA 2001-2373424	20010307
PRAI	US 2000-187819P	P	20000308		
	US 2001-800327	A	20010306		
	WO 2001-US7423	W	20010307		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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WO 2001066792	ICM	C12Q001-42
	ICS	C12Q001-34; C12Q001-00
US 2002103082	NCL	504/116.100; 504/117.000
	ECLA	C12Q001/42

AB The invention relates to the modulation of pesticidal and herbicidal activity by treatment of a membrane transport system in a cell. This entails modifying the extracellular phosphatases found in the membranes of these cells. By modifying the ATP gradient across the biol. membrane of a target plant, bacteria, insect or mammalian cell via inhibiting one or more extracellular phosphatases, it is possible to alter the sensitivity to a pesticide or herbicide. In preferred embodiments, the chemical moieties of the invention act as adjuvants to enhance pesticidal activity.

ST pesticide adjuvant membrane extracellular phosphatase inhibition

IT Transport proteins

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(ABC (ATP-binding cassette-containing); pesticide adjuvants acting by inhibition of extracellular phosphatases and ABC transporters)

IT Fungicides

(fungicide adjuvants acting by inhibition of extracellular phosphatases in membranes)

IT Herbicides

(herbicide adjuvants acting by inhibition of extracellular phosphatases in membranes)

IT Pesticides

(pesticide adjuvants acting by inhibition of extracellular phosphatases in membranes)

IT 9013-05-2, Phosphatase

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(ecto-; pesticide adjuvants acting by inhibition of extracellular phosphatases in membranes)

IT 1897-45-6, Chlorothalonil

RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
(fungicide adjuvants acting by inhibition of extracellular phosphatases in membranes)

IT 19044-88-3, Surflan 40487-42-1, Pendimethalin
RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
(herbicide adjuvants acting by inhibition of extracellular phosphatases in membranes)

IT 41481-51-0 139963-64-7 154201-55-5 168832-50-6 171248-07-0
291536-79-3 291536-80-6 291536-81-7 291536-82-8 291536-84-0
291536-85-1 **291536-86-2** 291536-87-3 291536-88-4
291536-89-5 291536-90-8 291536-91-9 **291536-92-0**
313493-42-4
RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
(pesticide adjuvant acting by inhibition of extracellular phosphatases in membranes)

IT 56-65-5, ATP, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(pesticide adjuvants acting by modification of ATP gradients across membranes)

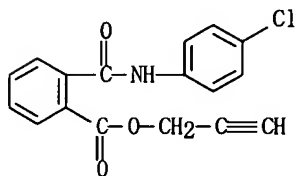
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
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(2) Decottignies; J Biol Chem 1998, V273(20), P12612 HCAPLUS
(3) Grant; Cancer Research 1994, V54, P357 HCAPLUS
(4) Thomas; The Plant Cell 2000, V12, P519 HCAPLUS
(5) University Of Texas; WO 0052144 A1 2000 HCAPLUS

IT **291536-86-2**
RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
(pesticide adjuvant acting by inhibition of extracellular phosphatases in membranes)

RN 291536-86-2 HCAPLUS

CN Benzoic acid, 2-[[[(4-chlorophenyl)amino]carbonyl]-, 2-propynyl ester (9CI)
(CA INDEX NAME)



L50 ANSWER 6 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:661570 HCAPLUS

DN 135:206922

ED Entered STN: 10 Sep 2001

TI Pesticidal and herbicidal activity through modulation of animal and plant cell membrane transport

IN Windsor, J. Brian; Roux, Stan J.; Lloyd, Alan M.

PA Board of Regents, the University of Texas System, USA

SO PCT Int. Appl., 74 pp.
CODEN: PIXXD2

DT Patent

LA English

IC C12N009-99; C12N015-01; A01H001-06

CC 5-4 (Agrochemical Bioregulators)

FAN.CNT 3

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001064859	A1	20010907	WO 2001-US6503	20010227
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRAI US 2000-185299P

P

20000228

CLASS

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

WO 2001064859 IC C12N009-99IC C12N015-01IC A01H001-06

AB The invention relates to the modulation of pesticidal and herbicidal activity by treatment of a membrane transport system in a cell. This entails modifying the extra-cellular phosphatases found in the membranes of these cells. By modifying the ATP gradient across the biol. membrane of a target plant, bacteria, insect or mammalian cell via inhibiting one or more extracellular phosphatases, it is possible to alter the sensitivity to a pesticide or herbicide. The method also comprises inhibiting an ABC transporter in the target cell. The method can also be used for identifying chems. with pesticidal activity.

ST pesticide herbicide ectophosphatase ABC transporter inhibition

IT Transport proteins

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(ABC (ATP-binding cassette-containing); enhancement of pesticidal and herbicidal activity by altering the ATP gradient across biol. membranes and inhibiting an ABC transporter)

IT Herbicides

Pesticides

(ectophosphatase inhibitors which enhance pesticidal and herbicidal activity by altering the ATP gradient across biol. membranes)

IT 41481-51-0 139963-64-7 154201-55-5 168832-50-6 171248-07-0

291536-79-3 291536-80-6 291536-81-7 291536-82-8 291536-83-9

291536-84-0 **291536-86-2** 291536-87-3 291536-88-4

291536-89-5 291536-90-8 291536-91-9 **291536-92-0**

358622-53-4

RL: AGR (Agricultural use); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(ectophosphatase inhibitor which enhances pesticidal and herbicidal activity by altering the ATP gradient across biol. membranes)

IT 56-65-5, ATP, biological studies

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(ectophosphatase inhibitors which enhance pesticidal and herbicidal activity by altering the ATP gradient across biol. membranes)

IT 9032-64-8, Nucleotide pyrophosphatase 37289-25-1, ATP pyrophosphatase

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(extracellular; ectophosphatase inhibitors which enhance pesticidal and herbicidal activity by altering the ATP gradient across biol. membranes)

RE. CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Lu, Y; The Plant Cell 1998, V10, P267 HCAPLUS

(2) Thomas, C; The Plant Cell 2000, V12, P519 HCAPLUS

IT **291536-86-2**

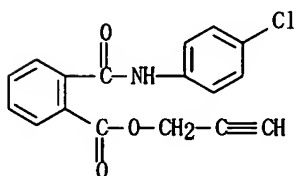
RL: AGR (Agricultural use); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(ectophosphatase inhibitor which enhances pesticidal and herbicidal activity by altering the ATP gradient across biol. membranes)

RN 291536-86-2 HCAPLUS

CN Benzoic acid, 2-[[[4-chlorophenyl]amino]carbonyl]-, 2-propynyl ester (9CI)

(CA INDEX NAME)



L50 ANSWER 7 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 2000:628251 HCAPLUS
 DN 133:219782
 ED Entered STN: 10 Sep 2000
 TI Genetic and epigenetic manipulation of ABC transporters and
 ecto-phosphatases for modulating drug resistance and methods for detection
 of ecto-phosphatase inhibitors
 IN Thomas, Collin E.; Windsor, J. Brian; Roux, Stan
 J.; Lloyd, Alan M.; Hurley, Laurence
 PA University of Texas, USA
 SO PCT Int. Appl., 85 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C12N005-04
 ICS C12N005-06; C12N001-16; C12N001-20; C12N015-67; C12N015-81;
 C12N015-82; C12N015-90; A01H001-00; A01H005-00
 CC 9-2 (Biochemical Methods)
 Section cross-reference(s): 1, 3, 10, 11
 FAN. CNT 3

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000052144	A1	20000908	WO 2000-US5315	20000228
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
EP 1185623	A1	20020313	EP 2000-913685	20000228
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
US 2002173031	A1	20021121	US 2002-47251	20020114
PRAI US 1999-261825	A	19990303		
WO 2000-US5315	W	20000228		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2000052144	ICM	C12N005-04
	ICS	C12N005-06; C12N001-16; C12N001-20; C12N015-67; C12N015-81; C12N015-82; C12N015-90; A01H001-00; A01H005-00
US 2002173031	NCL	435/245.000; 435/195.000
	ECLA	A61K031/165A; A61K031/166; A61K031/167; A61K031/18; A61K031/215L10; A61K031/216; A61K031/24; A61K031/352; A61K031/381; A61K031/404; A61K031/425F; C07K014/705; C12N009/14; C12N015/82C8B4

AB The present invention relates to methods for modulating the resistance of cells to foreign compds., i.e. drugs, antibiotics, etc. by altering the ATP gradient across biol. membranes. Altering the ATP gradient across biol. membranes is achieved through the manipulation of ecto-phosphatase activity and ABC transporter mol. activity. The above method may be useful to confer herbicide resistance to plants, antibiotic resistance to bacteria, and drug resistance to yeast cells, or to reduce resistance in cells, bacteria, and yeast in order to facilitate chemotherapeutic treatments. The present invention is also directed to the methods for identifying ecto-phosphatase inhibitors and uses thereof. Thus, Arabidopsis thaliana has been shown to possess an ecto-apyrase and this ecto-apyrase and PGP-1 (an MDR-like protein) to have a role in MDR. Addnl., the extracellular ATP pool was shown to be critical for MDR in yeast. Screening of a combinatorial library of small mols. has resulted in identification of apyrase inhibitors.

ST drug resistance ectophosphatase ABC transporter ATP gradient

IT Transport proteins

RL: BAC (Biological activity or effector, except adverse); BSU (Biological

study, unclassified); BIOL (Biological study)
 (ABC; genetic and epigenetic manipulation of ABC transporters and
 ecto-phosphatases for modulating drug resistance and methods for
 detection of ecto-phosphatase inhibitors)

- IT Membrane, biological
 (ATP gradient across; genetic and epigenetic manipulation of ABC
 transporters and ecto-phosphatases for modulating drug resistance and
 methods for detection of ecto-phosphatase inhibitors)
- IT Chemotherapy
 Herbicide resistance
 (augmentation of; genetic and epigenetic manipulation of ABC
 transporters and ecto-phosphatases for modulating drug resistance and
 methods for detection of ecto-phosphatase inhibitors)
- IT Neoplasm
 (decreasing drug resistance in; genetic and epigenetic manipulation of
 ABC transporters and ecto-phosphatases for modulating drug resistance
 and methods for detection of ecto-phosphatase inhibitors)
- IT Arabidopsis thaliana
 Aspergillus fumigatus
 Bacteria (Eubacteria)
 Drug resistance
 Lactococcus lactis
 Pea
 Plant cell
 Saccharomyces cerevisiae
 Yeast
 (genetic and epigenetic manipulation of ABC transporters and
 ecto-phosphatases for modulating drug resistance and methods for
 detection of ecto-phosphatase inhibitors)
- IT Animal cell
 (mammalian; genetic and epigenetic manipulation of ABC transporters and
 ecto-phosphatases for modulating drug resistance and methods for
 detection of ecto-phosphatase inhibitors)
- IT 50-81-7, Ascorbic acid, uses 11098-84-3, Ammonium molybdate
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (genetic and epigenetic manipulation of ABC transporters and
 ecto-phosphatases for modulating drug resistance and methods for
 detection of ecto-phosphatase inhibitors)
- IT 9013-05-2, Phosphatase 41481-51-0 139963-64-7 154201-55-5
 168832-50-6 171248-07-0 291536-79-3 291536-80-6 291536-81-7
 291536-82-8 291536-83-9 291536-84-0 291536-85-1 **291536-86-2**
 291536-87-3 291536-88-4 291536-89-5 291536-90-8 291536-91-9
291536-92-0
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological
 study, unclassified); BIOL (Biological study)
 (genetic and epigenetic manipulation of ABC transporters and
 ecto-phosphatases for modulating drug resistance and methods for
 detection of ecto-phosphatase inhibitors)
- IT 56-65-5, ATP, biological studies
 RL: BOC (Biological occurrence); BSU (Biological study, unclassified);
 BIOL (Biological study); OCCU (Occurrence)
 (gradient of; genetic and epigenetic manipulation of ABC transporters
 and ecto-phosphatases for modulating drug resistance and methods for
 detection of ecto-phosphatase inhibitors)

RE. CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

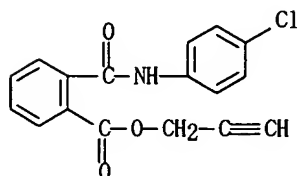
RE

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- (3) Grant; Cancer Research 1994, V54, P357 HCAPLUS
- (4) Kiba; Plant Cell Physiol 1995, V36(5), P809 HCAPLUS
- (5) Lu; The Plant Cell 1998, V10, P267 HCAPLUS
- (6) Sidler; The Plant Cell 1998, V10(10), P1632
- (7) Thomas; Plant Physiol 1999, V119, P543 HCAPLUS
- (8) Wang; J Biol Chem 1996, V271(17), P9898 HCAPLUS

IT **291536-86-2**

RL: BAC (Biological activity or effector, except adverse); BSU (Biological
 study, unclassified); BIOL (Biological study)
 (genetic and epigenetic manipulation of ABC transporters and
 ecto-phosphatases for modulating drug resistance and methods for
 detection of ecto-phosphatase inhibitors)

RN 291536-86-2 HCAPLUS
 CN Benzoic acid, 2-[[[(4-chlorophenyl)amino]carbonyl]-, 2-propynyl ester (9CI)
 (CA INDEX NAME)



=> d all hitstr 151 tot

L51 ANSWER 1 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1999:98011 HCAPLUS
 DN 130:237254
 ED Entered STN: 15 Feb 1999
 TI Self-Assembly of Hydrogen-Bonded Polymeric Rods Based on the Cyanuric Acid-Melamine Lattice
 AU Choi, Insung S.; Li, Xinhua; Simanek, Eric E.; Akaba, Ryoichi; Whitesides, George M.
 CS Department of Chemistry and Chemical Biology, Harvard University, Cambridge, MA, 02138, USA
 SO Chemistry of Materials (1999), 11(3), 684-690
 CODEN: CMATEX; ISSN: 0897-4756
 PB American Chemical Society
 DT Journal
 LA English
 CC 22-13 (Physical Organic Chemistry)
 Section cross-reference(s): 35
 AB This paper describes the self-assembly of hydrogen-bonded polymeric rods based on the lattice of cyanuric acid and melamine (CA·M). Data from 1H NMR spectroscopy, IR spectroscopy, gel permeation chromatog. (GPC), and transmission electron microscopy (TEM) are interpreted as indicating that the self-assembly of a bisisocyanuric acid (bisCA) and a bismelamine (bism) formed polymeric nanorods [(bisCA)_n(bism)_n] composed of parallel CA·M rosettes. The TEM results suggest that these rods aggregate as bundles. The length of the bundles ranged from 100 to 1500 nm, and their diameter was in the range from 15 to 500 nm.
 ST cyanuric acid melamine hydrogen bonded polymeric nanorod self assembly
 IT IR spectroscopy
 (Fourier-transform, for aggregate characterization; self-assembly of hydrogen-bonded polymeric rods based on the cyanuric acid-melamine lattice)
 IT Gel permeation chromatography
 Proton NMR spectroscopy
 Transmission electron microscopy
 (for aggregate characterization; self-assembly of hydrogen-bonded polymeric rods based on the cyanuric acid-melamine lattice)
 IT Solvent effect
 (on aggregate size and morphol.; self-assembly of hydrogen-bonded polymeric rods based on the cyanuric acid-melamine lattice)
 IT Van der Waals potential
 (rod bundles formed by van der Waals interaction between lauryloxypropyl chains; self-assembly of hydrogen-bonded polymeric rods based on the cyanuric acid-melamine lattice)
 IT Aggregation
 Gels
 Hydrogen bond
 Nanoparticles
 Self-assembly
 (self-assembly of hydrogen-bonded polymeric rods based on the cyanuric acid-melamine lattice)
 IT 129001-73-6 146651-79-8
 RL: PEP (Physical, engineering or chemical process); PRP (Properties);

Search done by Noble Jarrell

PROC (Process)

(polymer component; self-assembly of hydrogen-bonded polymeric rods based on the cyanuric acid-melamine lattice)

- IT 221246-86-2P 221246-89-5P 221246-91-9P
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (preparation as polymer component; self-assembly of hydrogen-bonded polymeric rods based on the cyanuric acid-melamine lattice)
- IT 108-77-0, Cyanuric chloride 582-16-1, 2,7-Dimethylnaphthalene 1889-05-0 7617-74-5 16326-62-8, Nitrobiuret
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (self-assembly of hydrogen-bonded polymeric rods based on the cyanuric acid-melamine lattice)
- IT 38309-89-6P, 2,7-Bis(bromomethyl)naphthalene 221246-93-1P, 2,7-Bis(azidomethyl)naphthalene 221246-95-3P, 2,7-Bis(aminomethyl)naphthalene 221246-96-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (self-assembly of hydrogen-bonded polymeric rods based on the cyanuric acid-melamine lattice)

RE. CNT 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE

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 - (2) Branda, N; Science 1994, V263, P1267 HCAPLUS
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- IT 129001-73-6

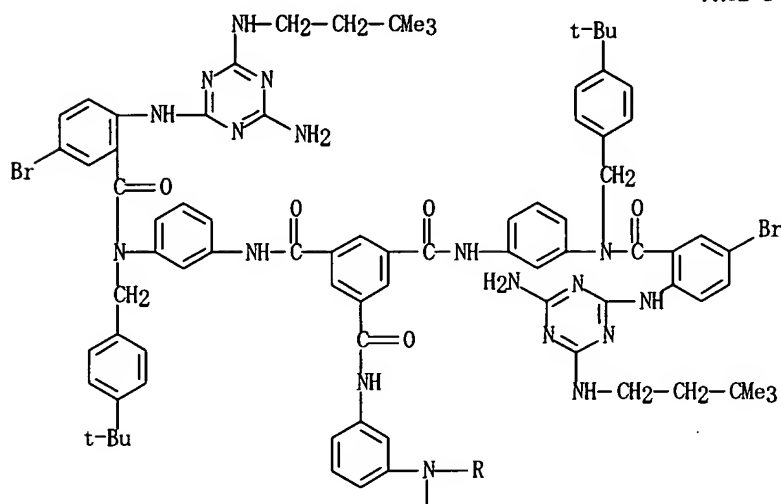
RL: PEP (Physical, engineering or chemical process); PRP (Properties);
PROC (Process)

(polymer component; self-assembly of hydrogen-bonded polymeric rods
based on the cyanuric acid-melamine lattice)

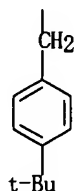
RN 129001-73-6 HCAPLUS

CN 1, 3, 5-Benzenetricarboxamide, N,N',N''-tris[3-[[2-[[4-amino-6-[(3,3-dimethylbutyl)amino]-1,3,5-triazin-2-yl]amino]-5-bromobenzoyl][4-(1,1-dimethylethyl)phenyl]methyl]amino]phenyl]- (9CI) (CA INDEX NAME)

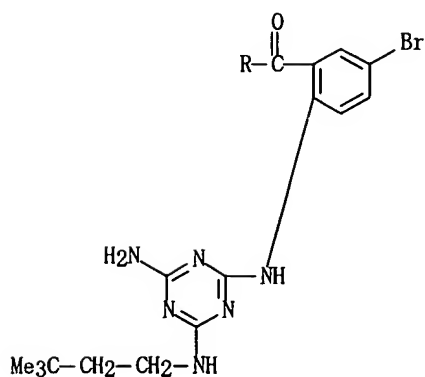
PAGE 1-A



PAGE 2-A



PAGE 3-A



- L51 ANSWER 2 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1998:16466 HCAPLUS
 DN 128:29651
 ED Entered STN: 13 Jan 1998
 TI Self-Assembly of Zinc Porphyrins around the Periphery of Hydrogen-Bonded
 Aggregates That Bear Imidazole Groups
 AU Simanek, Eric E.; Isaacs, Lyle; Li, Xinhua; Wang, Clay C. C.; Whitesides,
 George M.
 CS Department of Chemistry and Chemical Biology, Harvard University,
 Cambridge, MA, 02138, USA
 SO Journal of Organic Chemistry (1997), 62(26), 8994-9000
 CODEN: JOCEAH; ISSN: 0022-3263
 PB American Chemical Society
 DT Journal
 LA English
 CC 78-7 (Inorganic Chemicals and Reactions)
 Section cross-reference(s): 28
- AB This paper describes the preparation and characterization of four aggregates
 that are based on the rosette of derivs. of isocyanuric acid (CA) and
 melamine (M). These aggregates comprise a trismelamine, hub(MIm)₃, that
 presents imidazole groups around its periphery; these imidazoles organize
 zinc tetra-Ph porphyrin (ZnTPP) by coordination of the imidazole to the
 zinc center. Aggregate (1) forms a single rosette upon mixing 1 equiv of
 hub(MIm)₃ and 3 equiv of CA. Adding 3 equiv of ZnTPP yields (2).
 Aggregate (3) forms as a stacked bisrosette upon mixing 2 equiv of
 hub(MIm)₃ and 3 equiv of bisCA. Adding 6 equiv of ZnTPP yields (4). The
 stoichiometries of aggregates 1-4 were obtained by titrating the
 trismelamines with CA and by titrating the aggregates with ZnTPP. The
 stoichiometry is defined as the ratio at which addnl. CA remains insol. or
 addnl. ZnTPP appears as free ZnTPP in the ¹H NMR spectrum. Electrospray
 ionization mass spectrometry (ESI-MS) is compatible with the measured
 stoichiometries. The structures of these aggregates were determined using
 variable-temperature ¹H NMR spectroscopy; analogous structures were inferred for
 (5) and (6), the tert-Bu analogs of 1 and 2. The shapes of the traces
 from gel permeation chromatog. (GPC) suggest that imidazole groups
 destabilize the aggregates when they are not involved in coordination to
 zinc; i.e., the stability seems to be 6 ≈ 4 > 3 and 5 ≈ 2
 > 1. A direct comparison of the relative stability of 1, 2, and 5
 confirms the results of the GPC anal.: mixing 1 (hub(MIm)₃·3CA)
 with the trismelamine component of 5 (hub(M)₃) gives a 3:2 mixture of 5:1.
 Adding ZnTPP to this solution leads to a 3:2 mixture of 5:2 with free
 trismelamines remaining in solution: 1 is not observed. The results of
 UV/visible spectroscopy are consistent with the other spectroscopic and
 chromatog. results and indicate that 3 equiv of ZnTPP are organized around
 the periphery of 2 and at least 4 equiv around the periphery of 4.
- ST zinc porphyrinate imidazolyltrismelamine alkylisocyanurate aggregate
 prepn; self assembly prepn zinc porphyrinato aggregate; melamine
 isocyanurate zinc porphyrinate aggregate prepn; porphinate zinc
 imidazolyltrismelamine alkylisocyanurate aggregate prepn
- IT Complexation kinetics
 (kinetics of complexation of butylimidazole with zinc
 tetraphenylporphyrinato complex)
- IT Hydrogen bond
 (of aggregates based on rosette of derivs. of isocyanuric acid and
 melamine and their zinc tetraphenylporphyrinato complexes)
- IT Self-assembly
 (self-assembly preparation of hydrogen-bonded aggregates based on rosette of
 derivs. of isocyanuric acid and melamine and their zinc
 tetraphenylporphyrinato complexes)
- IT 108-77-0, Cyanuric chloride 4422-95-1, 1,3,5-Benzenetricarbonyl chloride
 5036-48-6, N-(3-Aminopropyl)imidazole 14074-80-7,
 (Tetraphenylporphyrinato)zinc 147355-03-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (for self-assembly preparation of hydrogen-bonded aggregates based on
 rosette of derivs. of isocyanuric acid and melamine and their zinc
 tetraphenylporphyrinato complexes)
- IT 199171-63-6P 199171-69-2P 199171-70-5P 199171-71-6P
 199171-72-7P 199171-73-8P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)

(for self-assembly preparation of hydrogen-bonded aggregates based on rosette of derivs. of isocyanuric acid and melamine and their zinc tetraphenylporphyrinato complexes)

IT 4316-42-1, N-Butylimidazole

RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(kinetics of complexation of butylimidazole with zinc tetraphenylporphyrinato complex)

IT 199171-74-9P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

IT 199303-63-4P 199303-64-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
(self-assembly preparation of hydrogen-bonded aggregate)

IT 199171-64-7P 199171-65-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)

(self-assembly preparation of hydrogen-bonded aggregate and reaction with zinc tetraphenylporphyrinato complex)

IT 199171-67-0 199171-68-1

RL: PRP (Properties)
(stability compared to imidazolyl analog)

RE. CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD

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IT 199171-63-6P 199171-72-7P 199171-73-8P

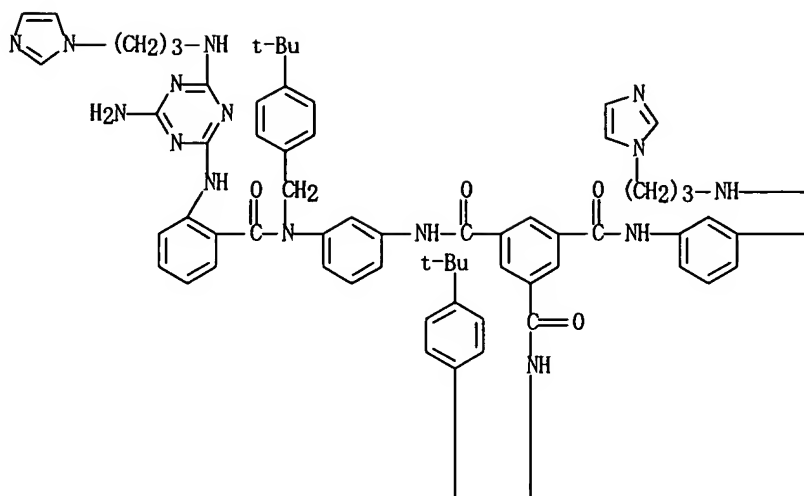
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)

(for self-assembly preparation of hydrogen-bonded aggregates based on rosette of derivs. of isocyanuric acid and melamine and their zinc tetraphenylporphyrinato complexes)

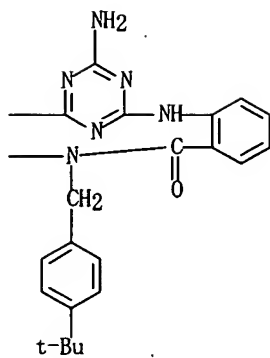
RN 199171-63-6 HCAPLUS

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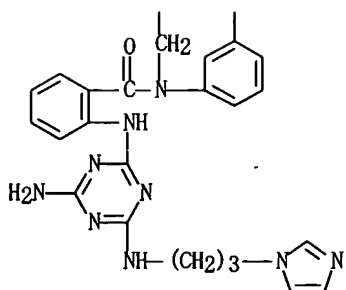
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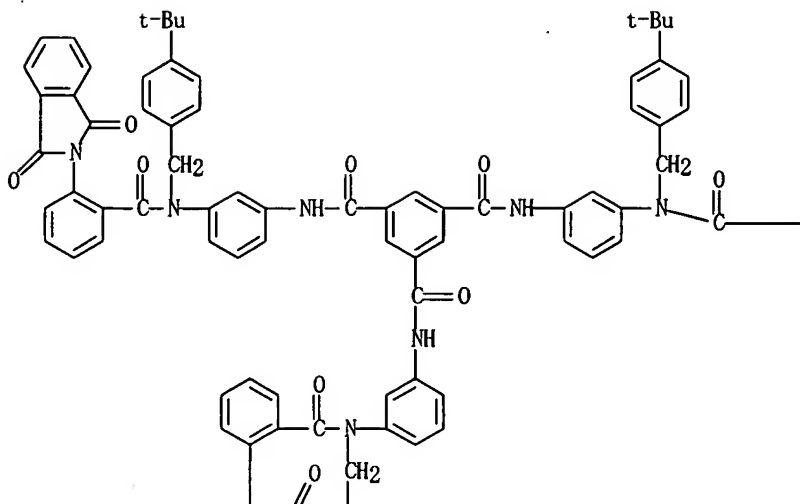
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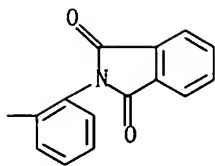
RN 199171-72-7 HCAPLUS
 CN 1, 3, 5-Benzenetricarboxamide, N, N', N''-tris[3-[[2-(1, 3-dihydro-1, 3-dioxo-2H-isoindol-2-yl)benzoyl]] [4-(1, 1-dimethylethyl)phenyl]methyl]amino]phenyl]-(9CI) (CA INDEX NAME)

Search done by Noble Jarrell

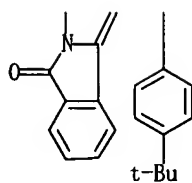
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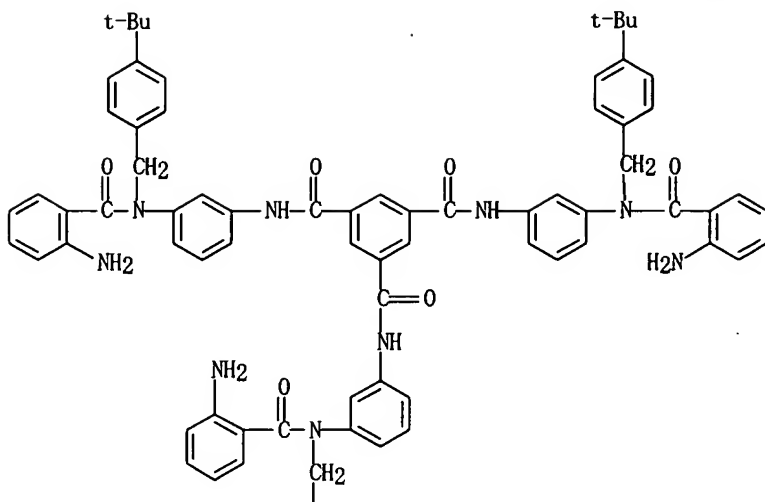


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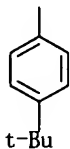


RN 199171-73-8 HCAPLUS
 CN 1,3,5-Benzenetricarboxamide, N,N',N''-tris[3-[(2-aminobenzoyl)[[4-(1,1-dimethylethyl)phenyl]methyl]amino]phenyl]- (9CI) (CA INDEX NAME)

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IT 199171-64-7P 199171-65-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(self-assembly preparation of hydrogen-bonded aggregate and reaction with zinc tetraphenylporphyrinato complex)

RN 199171-64-7 HCAPLUS

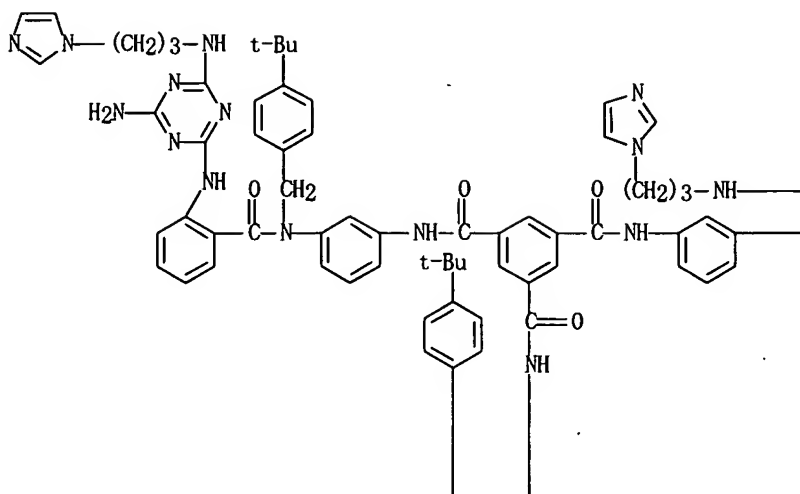
CN 1, 3, 5-Benzenetricarboxamide, N,N',N''-tris[3-[[2-[[4-amino-6-[[3-(1H-imidazol-1-yl)propyl]amino]-1,3,5-triazin-2-yl]amino]benzoyl][4-(1,1-dimethylethyl)phenyl]methyl]amino]phenyl]-, compd. with 1-(3,3-dimethylbutyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (1:3) (9CI) (CA INDEX NAME)

CM 1

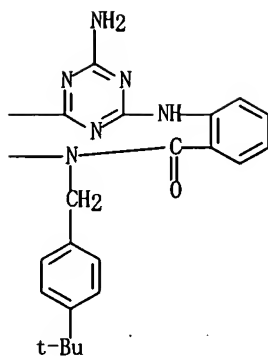
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CMF C108 H114 N30 06

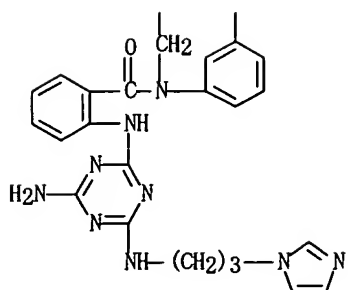
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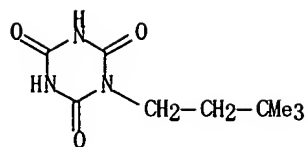
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CM 2

CRN 129001-74-7
CMF C9 H15 N3 O3

Search done by Noble Jarrell



RN 199171-65-8 HCAPLUS

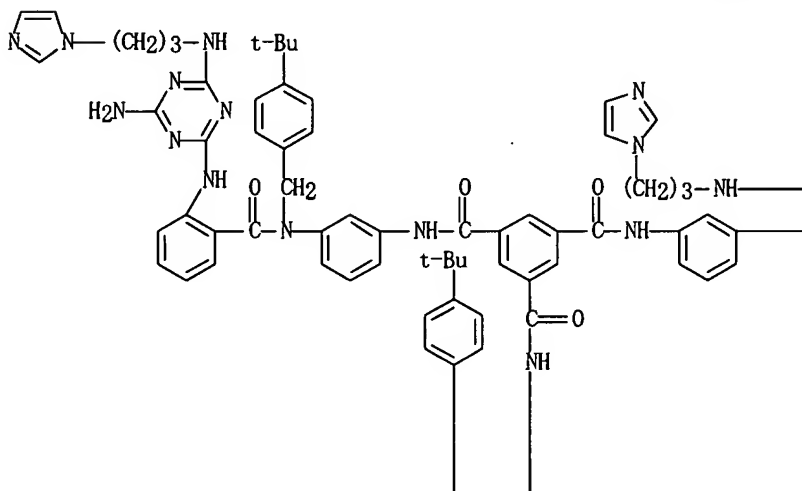
CN 1,3,5-Benzenetricarboxamide, N,N',N''-tris[3-[[2-[[4-amino-6-[[3-(1H-imidazol-1-yl)propyl]amino]-1,3,5-triazin-2-yl]amino]benzoyl][[4-(1,1-dimethylethyl)phenyl]methyl]amino]phenyl]-, compd. with 1,1'-[[4,6-bis(1-methylethyl)-1,3-phenylene]bis(methylene)]bis[1,3,5-triazine-2,4,6(1H,3H,5H)-trione] (2:3) (9C1) (CA INDEX NAME)

CM 1

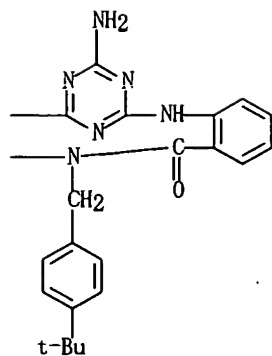
CRN 199171-63-6

CMF C108 H114 N30 O6

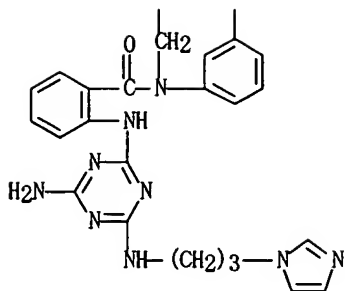
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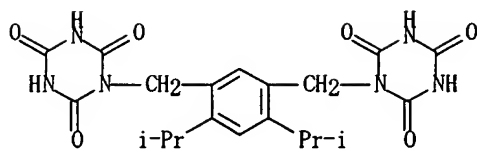


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CM 2

CRN 131296-09-8
CMF C20 H24 N6 O6



IT 199171-67-0 199171-68-1

RL: PRP (Properties)

(stability compared to imidazolyl analog)

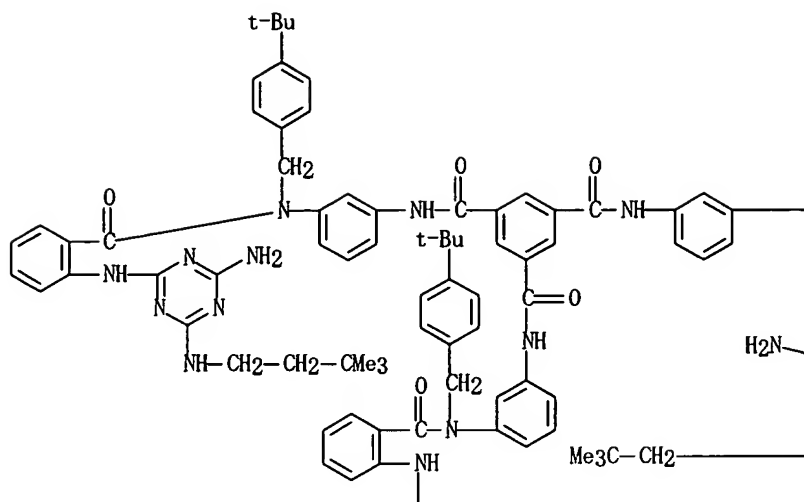
RN 199171-67-0 HCAPLUS

CN 1,3,5-Benzenetricarboxamide, N,N',N''-tris[3-[[2-[[4-amino-6-[(3,3-dimethylbutyl)amino]-1,3,5-triazin-2-yl]amino]benzoyl][4-(1,1-dimethylethyl)phenyl]methyl]amino]phenyl]-, compd. with
1-(3,3-dimethylbutyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (1:3) (9C1)
(CA INDEX NAME)

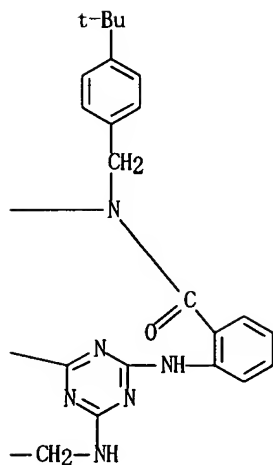
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CRN 199171-66-9
CMF C108 H126 N24 O6

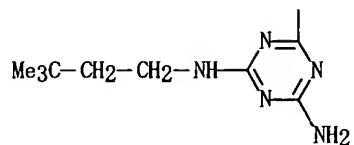
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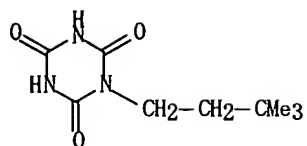


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CM 2

CRN 129001-74-7
CMF C9 H15 N3 O3



RN 199171-68-1 HCAPLUS

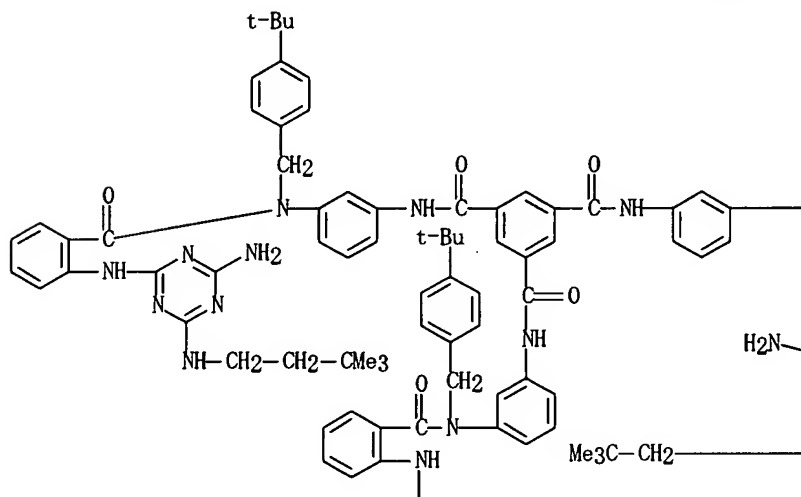
CN 1,3,5-Benzenetricarboxamide, N,N',N''-tris[3-[[2-[[4-amino-6-[(3,3-dimethylbutyl)amino]-1,3,5-triazin-2-yl]amino]benzoyl][[4-(1,1-dimethylethyl)phenyl]methyl]amino]phenyl]-, compd. with 1,1'-[[4,6-bis(1-methylethyl)-1,3-phenylene]bis(methylene)]bis[1,3,5-triazine-2,4,6(1H,3H,5H)-trione] (2:3) (9CI) (CA INDEX NAME)

CM 1

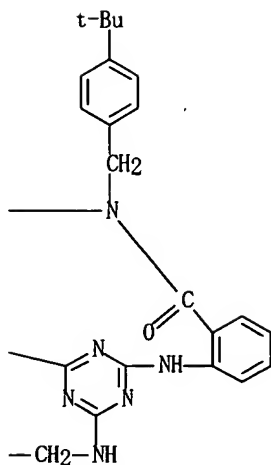
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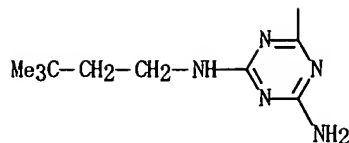
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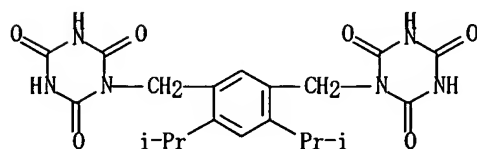


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CM 2

CRN 131296-09-8
CMF C20 H24 N6 O6



- L51 ANSWER 3 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1997:396315 HCAPLUS
 DN 127:122065
 ED Entered STN: 26 Jun 1997
 TI New polymaleamides from N,N'-ethylenedianilinobisisomaleimide and aromatic diamines by ring-opening polyaddition: synthesis and characterization
 AU Nagarajan, E. R.; Rajeswari, N.; Viswanathan, S.
 CS Department of Printing Technology, Anna University, Madras, 600 025, India
 SO Journal of Macromolecular Science, Pure and Applied Chemistry (1997), A34(6), 1055-1076
 CODEN: JSPCE6; ISSN: 1060-1325
 PB Dekker
 DT Journal
 LA English
 CC 35-7 (Chemistry of Synthetic High Polymers)
 AB Polymaleamides have been synthesized by the ring-opening polyaddn. of N,N'-ethylenedianilinobisisomaleimide (EBIMI) with the aromatic diamines, 4,4'-diaminodiphenylmethane, 4,4'-diaminobibenzyl, 4,4'-diaminodiphenyl sulfone, 1,5-diaminonaphthalene, and 2,4-diaminopyridine in 1-methyl-2-pyrrolidinone. The appropriate model compound was also prepared. The structures of EBIMI, the model compound, and the polymaleamides were confirmed by IR, UV-visible, 1H NMR spectra, and elemental analyses. The IR spectra revealed the retention of cis-geometry about the C=C bonds in EBIMI and in the polymaleamides. The polymers were characterized by inherent viscosity, solubility, thermal stability, and DSC measurements. The polymaleamides were found to have inherent viscosities in the 0.06-0.13 dL/g range. The polymers were completely soluble in concentrated sulfuric acid and were found to be insol. in organic solvents such as Et alc. and acetone. The thermal degradation behaviors of the polymaleamides were studied by mass spectrometry; proposed fragmentation schemes for the polymaleamides are discussed.
 ST polymaleamide prepn property; ethylenedianilinobisisomaleimide ring opening polym arom diamine
 IT Glass transition temperature
 (of polymaleamides prepared from N,N'-ethylenedianilinobisisomaleimide and aromatic diamines by ring-opening polyaddn.)
 IT Polyamides, preparation
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (polymaleamides from N,N'-ethylenedianilinobisisomaleimide and aromatic diamines by ring-opening polyaddn.)
 IT Polymerization
 (ring-opening, polyaddn.; of N,N'-ethylenedianilinobisisomaleimide with aromatic diamines)

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- IT Polymer degradation
(thermal; of polymaleamides prepared from N,N'-ethylenedianilinobisisomaleimide and aromatic diamines by ring-opening polyaddn.)
- IT 174097-15-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; in preparation of polymaleamides from N,N'-ethylenedianilinobisisomaleimide and aromatic diamines by ring-opening polyaddn.)
- IT 174097-26-8P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(model compound; in preparation of polymaleamides from N,N'-ethylenedianilinobisisomaleimide and aromatic diamines by ring-opening polyaddn.)
- IT 174097-16-6P, N,N'-Ethylenedianilinobisisomaleimide
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer; for preparation of polymaleamides by ring-opening polyaddn.)
- IT 186345-50-6P 192508-88-6P 192508-90-0P 192508-93-3P
192508-95-5P 192508-96-6P 192508-97-7P 192508-98-8P 192508-99-9P
192588-08-2P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polymaleamides from N,N'-ethylenedianilinobisisomaleimide and aromatic diamines by ring-opening polyaddn.)
- IT 62-53-3, Benzenamine, reactions 108-31-6, 2,5-Furandione, reactions
621-95-4, 4,4'-Diaminobibenzyl
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant; in preparation of polymaleamides from N,N'-ethylenedianilinobisisomaleimide and aromatic diamines by ring-opening polyaddn.)

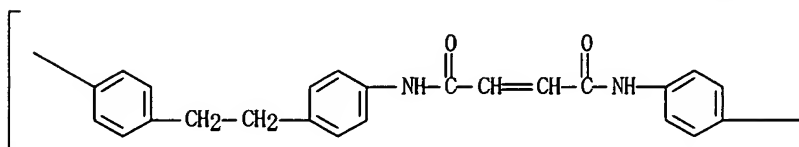
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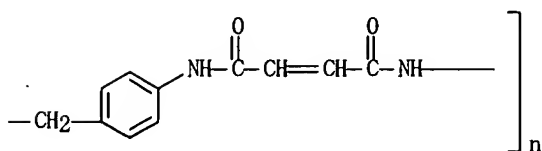
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- IT 186345-50-6P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (polymaleamides from N,N'-ethylenedianilinobisisomaleimide and aromatic
 diamines by ring-opening polyaddn.)
- RN 186345-50-6 HCAPLUS
 CN Poly[imino(1,4-dioxo-2-butene-1,4-diyl)imino-1,4-phenylenemethylene-1,4-
 phenyleneimino(1,4-dioxo-2-butene-1,4-diyl)imino-1,4-phenylene-1,2-
 ethanediyl-1,4-phenylene], (Z,Z)- (9CI) (CA INDEX NAME)

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- L51 ANSWER 4 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1997:218626 HCAPLUS
 DN 126:238016
 ED Entered STN: 04 Apr 1997
 TI Observation of Diastereomers of the Hydrogen-Bonded Aggregate
 Hub(M)3·3CA Using 1H Nuclear Magnetic Resonance Spectroscopy When
 CA Is an Optically-Active Isocyanuric Acid
 AU Simanek, Eric E.; Qiao, Shuang; Choi, Insung S.; Whitesides, George M.
 CS Department of Chemistry and Chemical Biology, Harvard University,
 Cambridge, MA, 02138, USA
 SO Journal of Organic Chemistry (1997), 62(8), 2619-2621
 CODEN: JOCEAH; ISSN: 0022-3263
 PB American Chemical Society
 DT Journal
 LA English
 CC 22-3 (Physical Organic Chemistry)
 AB The tris(melamine) component of hub(M)3 contains no chiral centers: the
 aggregate hub(M)3·3CA exists as a pair of enantiomers in the
 presence of optically-inactive isocyanuric acid (CA). Optically-active
 CA-derived from R- or S-naphthylethylamine and phenylethylamine-affords
 diastereomeric aggregates when mixed with hub(M)3. These diastereomers
 are identified using the hydrogen-bonding imide region of the 1H NMR
 spectrum.
 ST diastereomer hydrogen bond aggregate proton NMR; isocyanuric acid deriv

- hydrogen bond aggregate; optically active isocyanuric acid diastereomer aggregate
- IT Molecular association
Molecular orientation
(aggregation self-assembly; diastereomers of hydrogen-bonded aggregate Hub(M)3·3CA Using 1H NMR when CA is optically-active isocyanuric acid)
- IT Conformation
Conformational transition
Exchange reaction
Exchange reaction kinetics
Hydrogen bond
Inclusion reaction
Internal rotation
Optical activity
Resolution (separation)
Solvent effect
Stereoisomerization
Stereoisomerization kinetics
Supramolecular structure
(diastereomers of hydrogen-bonded aggregate Hub(M)3·3CA Using 1H NMR when CA is optically-active isocyanuric acid)
- IT Inclusion compounds
RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(diastereomers of hydrogen-bonded aggregate Hub(M)3·3CA Using 1H NMR when CA is optically-active isocyanuric acid)
- IT NMR (nuclear magnetic resonance)
(1H; diastereomers of hydrogen-bonded aggregate Hub(M)3·3CA using 1H NMR when CA is optically-active isocyanuric acid)
- IT **188590-00-3P 188590-01-4P**
RL: PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); PRP (Properties); RCT (Reactant); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(M (clockwise) and P (counterclockwise) arrangements of complex; diastereomers of hydrogen-bonded aggregate Hub(M)3·3CA Using 1H NMR when CA is optically-active isocyanuric acid)
- IT **188590-02-5P**
RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
(M (clockwise) and P (counterclockwise) arrangements of complex; diastereomers of hydrogen-bonded aggregate Hub(M)3·3CA Using 1H NMR when CA is optically-active isocyanuric acid)
- IT **188589-78-8 188589-98-2 188589-99-3**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(diastereomers of hydrogen-bonded aggregate Hub(M)3·3CA Using 1H NMR when CA is optically-active isocyanuric acid)
- IT **188589-96-0P 188589-97-1P**
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(diastereomers of hydrogen-bonded aggregate Hub(M)3·3CA Using 1H NMR when CA is optically-active isocyanuric acid)

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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IT 188590-00-3P 188590-01-4P

RL: PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); PRP (Properties); RCT (Reactant); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)

(M (clockwise) and P (counterclockwise) arrangements of complex; diastereomers of hydrogen-bonded aggregate Hub(M)3·3CA Using ¹H NMR when CA is optically-active isocyanuric acid)

RN 188590-00-3 HCAPLUS

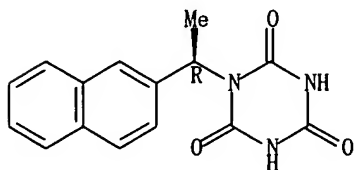
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CRN 188589-98-2

CMF C15 H13 N3 O3

Absolute stereochemistry. Rotation (+).

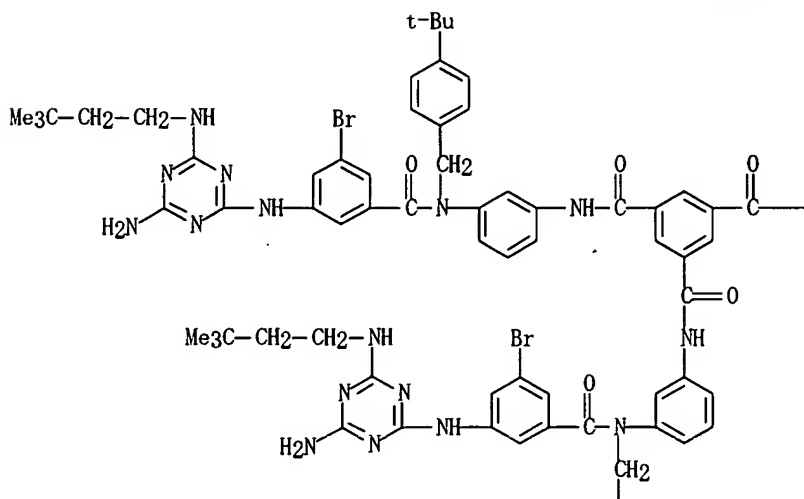


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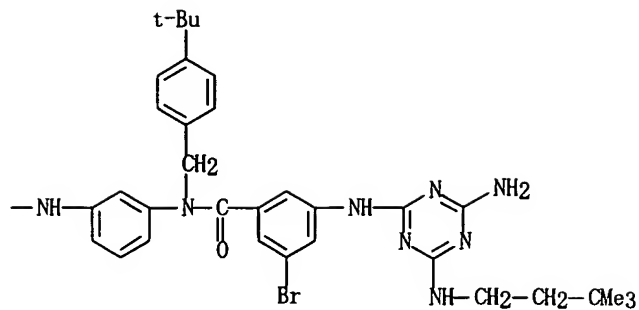
CRN 188589-78-8

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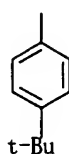
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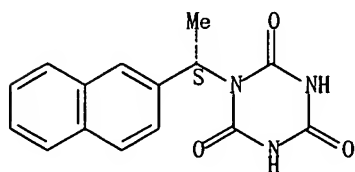


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 (S)-1-[1-(2-naphthalenyl)ethyl]-1, 3, 5-triazine-2, 4, 6(1H, 3H, 5H)-trione
 (1:3) (9CI) (CA INDEX NAME)

CM 1

CRN 188589-99-3
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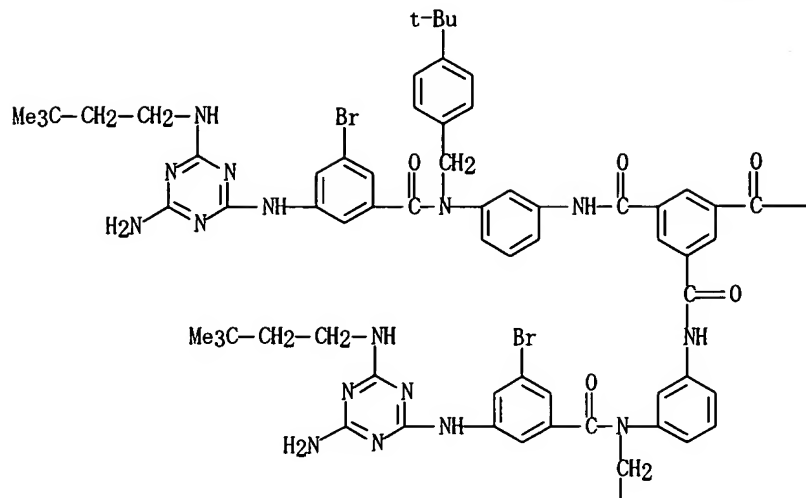
Absolute stereochemistry. Rotation (-).



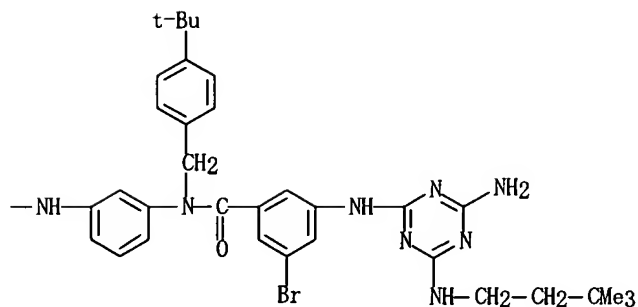
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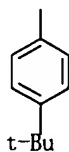
PAGE 1-A



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PAGE 2-A



IT 188590-02-5P

RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation)
 (M (clockwise) and P (counterclockwise) arrangements of complex;
 diastereomers of hydrogen-bonded aggregate Hub(M)3·3CA Using 1H
 NMR when CA is optically-active isocyanuric acid)

RN 188590-02-5 HCAPLUS

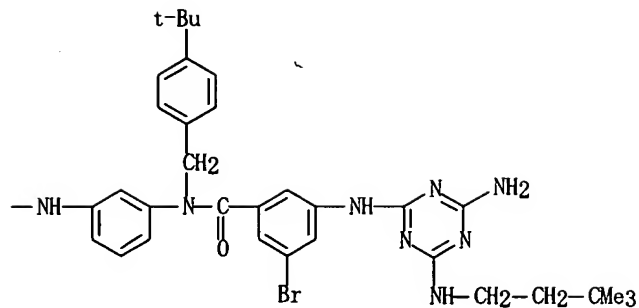
CN 1, 3, 5-Benzenetricarboxamide, N, N', N''-tris[3-[[3-[[4-amino-6-[(3, 3-dimethylbutyl)amino]-1, 3, 5-triazin-2-yl]amino]-5-bromobenzoyl][4-(1, 1-dimethylethyl)phenyl]methyl]amino]phenyl]-, compd. with
 (R)-1-[1-(2-naphthalenyl)ethyl]-1, 3, 5-triazine-2, 4, 6(1H, 3H, 5H)-trione and
 (S)-1-[2-(2-naphthalenyl)ethyl]-1, 3, 5-triazine-2, 4, 6(1H, 3H, 5H)-trione
 (2:3:3) (9CI) (CA INDEX NAME)

CM 1

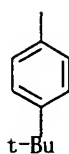
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IT 188589-78-8

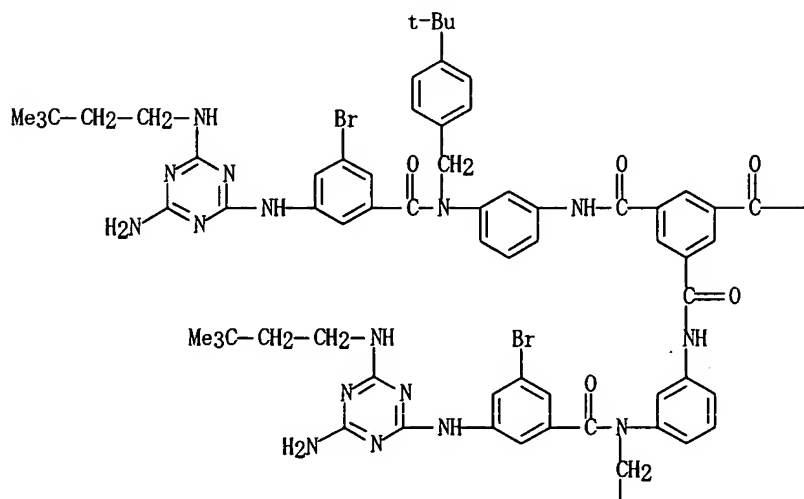
RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)

(diastereomers of hydrogen-bonded aggregate Hub(M)3·3CA Using 1H NMR when CA is optically-active isocyanuric acid)

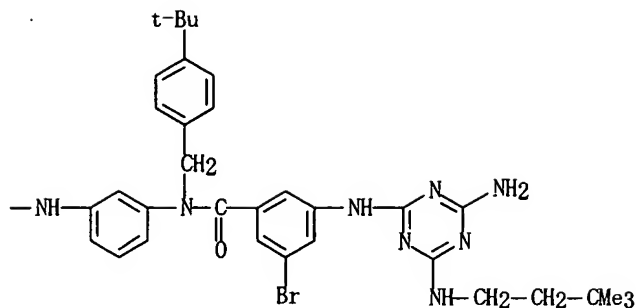
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CN 1, 3, 5-Benzenetricarboxamide, N, N', N''-tris[3-[[3-[[4-amino-6-[(3, 3-dimethylbutyl)amino]-1, 3, 5-triazin-2-yl]amino]-5-bromobenzoyl][4-(1, 1-dimethylethyl)phenyl]methyl]amino]phenyl]- (9CI) (CA INDEX NAME)

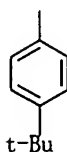
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PAGE 2-A



- L51 ANSWER 5 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1997:198079 HCAPLUS
 DN 126:238013
 ED Entered STN: 27 Mar 1997
 TI Computations and 1H NMR Spectroscopy of the Imide Region Can Distinguish
 Isomers of Hydrogen-Bonded Aggregates
 AU Chin, Donovan N.; Simanek, Eric E.; Li, Xinhua; Wazeer, Mohammed I. M.;
 Whitesides, George M.
 CS Department of Chemistry and Chemical Biology, Harvard University,
 Cambridge, MA, 02138, USA
 SO Journal of Organic Chemistry (1997), 62(6), 1891-1895
 CODEN: JOCEAH; ISSN: 0022-3263
 PB American Chemical Society
 DT Journal
 LA English
 CC 22-3 (Physical Organic Chemistry)
 AB General rules for the assignment of isomers of the aggregates of Hub(M)3
 (I), a sym. triimide based on a tris(melamine coupled triphenylamine)
 condensed to a 1,3,5-benzenetricarboxylic acid (the Hub) derivative, with
 cyanuric acid (CA) derivs. using mol. modeling of the I·i-
 Prbenz(CA)2 and I·i-Prfuran(CA)2 complexes. A simple modification
 to a noncovalent aggregate can translate into addnl. structural simplicity
 (due to, in the case of the I complexes, steric repulsion between groups
 along the periphery of the aggregate). I.e.; the use of i-Prbenz(CA)2
 instead of i-Prfuran(CA)2 results in fewer isomers. The rules for
 interpreting the imide region of the 1H NMR apply to these more
 complicated aggregates: the suggest the number and symmetries of isomers in
 solution Aggregates incorporating C3 sym. Hub(M)3 groups are more stable
 than those that incorporate asym. Hub(M)3 groups. The use of the
 deviation from planarity (DP) as a computational surrogate for the
 assignment of relative stability is discussed.
 ST mol modeling hydrogen bonded aggregate isomer; proton NMR imide region
 aggregate isomer
 IT Formation constant
 Stability
 (deviation from planarity; distinguishment of hydrogen-bonded aggregate
 isomers by mol. modeling and 1H NMR of imide region)
 IT Conformation
 Conformational transition
 Hydrogen bond
 Internal rotation

Isomers

Molecular mechanics

Molecular modeling

Molecular orientation

NMR (nuclear magnetic resonance)

Stereoisomers

Supramolecular structure

Symmetry

(distinguishment of hydrogen-bonded aggregate isomers by mol. modeling and 1H NMR of imide region)

IT Imides

Inclusion compounds

RL: PRP (Properties)

(distinguishment of hydrogen-bonded aggregate isomers by mol. modeling and 1H NMR of imide region)

IT Functional groups

(imide; distinguishment of hydrogen-bonded aggregate isomers by mol. modeling and 1H NMR of imide region)

IT Molecular association

(self-assembly; distinguishment of hydrogen-bonded aggregate isomers by mol. modeling and 1H NMR of imide region)

IT 129001-74-7 131296-09-8 146651-79-8 188589-78-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(distinguishment of hydrogen-bonded aggregate isomers by mol. modeling and 1H NMR of imide region)

IT 188589-82-4P 188589-86-8P

RL: SPN (Synthetic preparation); PREP (Preparation)

(distinguishment of hydrogen-bonded aggregate isomers by mol. modeling and 1H NMR of imide region)

RE. CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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- (13) Zerkowski, J; J Am Chem Soc 1994, V116, P2382 HCAPLUS

IT 188589-78-8

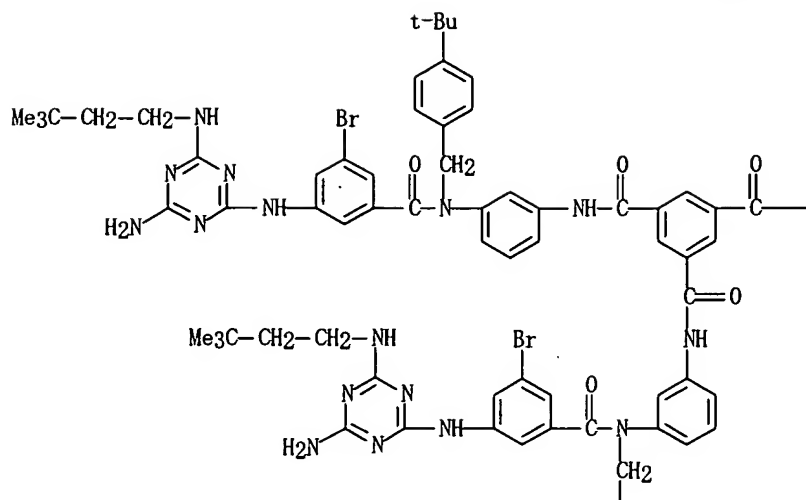
RL: RCT (Reactant); RACT (Reactant or reagent)

(distinguishment of hydrogen-bonded aggregate isomers by mol. modeling and 1H NMR of imide region)

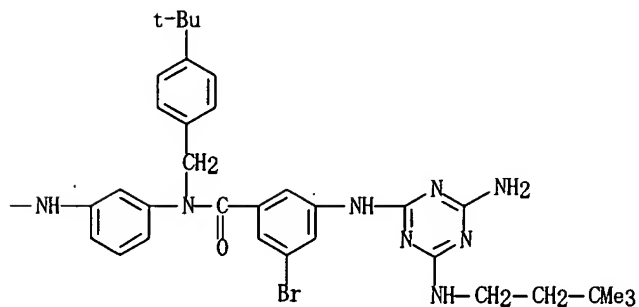
RN 188589-78-8 HCAPLUS

CN 1,3,5-Benzenetricarboxamide, N,N',N''-tris[3-[[3-[[4-amino-6-[(3,3-dimethylbutyl)amino]-1,3,5-triazin-2-yl]amino]-5-bromobenzoyl][4-(1,1-dimethylethyl)phenyl]methyl]amino]phenyl]- (9CI) (CA INDEX NAME)

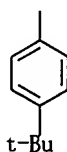
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IT 188589-82-4P 188589-86-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (distinguishment of hydrogen-bonded aggregate isomers by mol. modeling
 and 1H NMR of imide region)

RN 188589-82-4 HCAPLUS

CN 1,3,5-Benzenetricarboxamide, N,N',N''-tris[3-[[3-[[4-amino-6-[(3,3-dimethylbutyl)amino]-1,3,5-triazin-2-yl]amino]-5-bromobenzoyl][4-(1,1-dimethylethyl)phenyl]methyl]amino]phenyl]-, compd. with
 1,1'-[[4,6-bis(1-methylethyl)-1,3-phenylene]bis(methylene)]bis[1,3,5-triazine-2,4,6(1H,3H,5H)-trione] (2:3) (9CI) (CA INDEX NAME)

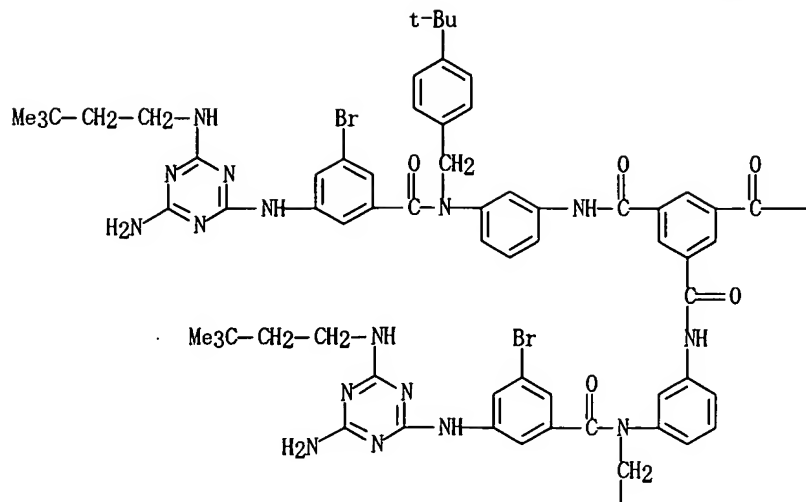
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CRN 188589-78-8

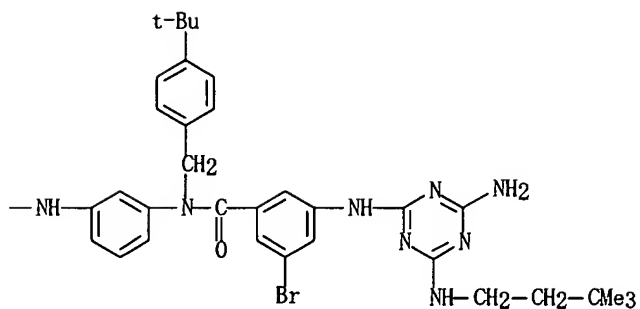
CMF C108 H123 Br3 N24 O6

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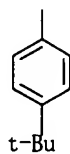
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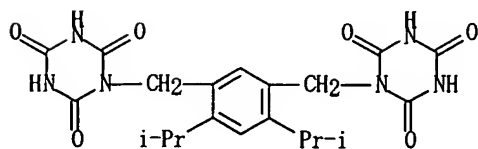


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CRN 131296-09-8
CMF C20 H24 N6 O6



RN 188589-86-8 HCAPLUS

Search done by Noble Jarrell

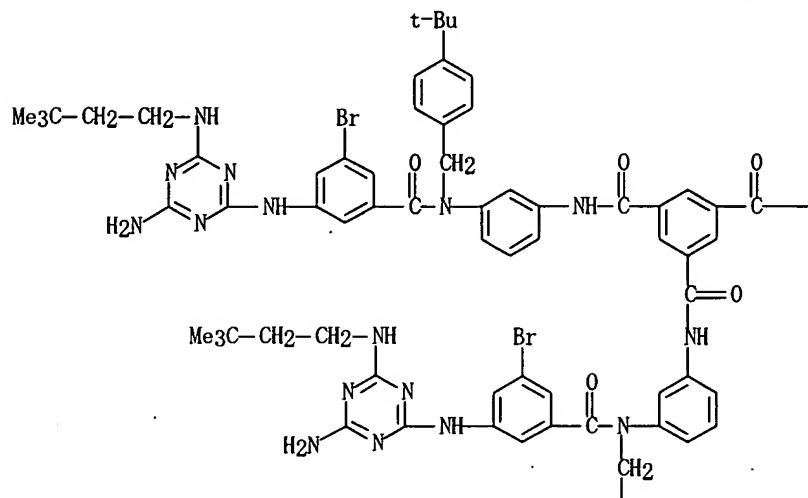
CN 1, 3, 5-Benzenetricarboxamide, N, N', N''-tris[3-[[3-[[4-amino-6-[(3, 3-dimethylbutyl)amino]-1, 3, 5-triazin-2-yl]amino]-5-bromobenzoyl][4-(1, 1-dimethylethyl)phenyl]methyl]amino]phenyl]-, compd. with
1, 1'-[[3, 4-bis(1-methylethyl)-2, 5-furandiyl]bis(methylene)]bis[1, 3, 5-triazine-2, 4, 6(1H, 3H, 5H)-trione] (2:3) (9CI) (CA INDEX NAME)

CM 1

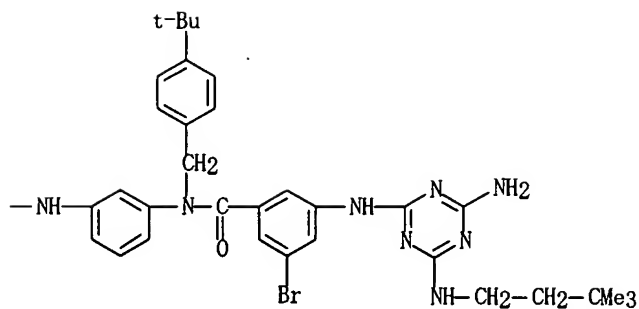
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CMF C108 H123 Br3 N24 O6

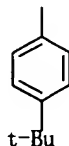
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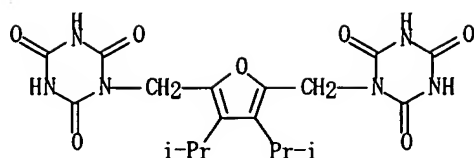
PAGE 2-A



CM 2

CRN 146651-79-8

CMF C18 H22 N6 O7



- L51 ANSWER 6 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1997:71737 HCAPLUS
 DN 126:171999
 ED Entered STN: 31 Jan 1997
 TI Synthesis and characterization of new polymaleamides from
 N,N'-bisisomaleimide and N,N'-methylenedianilinobisisomaleimide with some
 aromatic diamines by ring-opening polyaddition
 AU Viswanathan, S.; Nagarathinam, R.; Rajeswari, N.
 CS Dep. Polymer Science, Univ. Madras, Madras, 600 025, India
 SO Polymer (1997), 38(1), 217-224
 CODEN: POLMAG; ISSN: 0032-3861
 PB Elsevier
 DT Journal
 LA English
 CC 35-7 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 27
 AB Polymaleamides from bisisomaleimides and diamines were prepared by
 ring-opening polyaddn. (ROPA). These polymaleamides were found to have
 inherent viscosity in the range 0.30-0.42 g dl⁻¹. The identities of the
 polymaleamides were confirmed by elemental anal., and IR, UV-visible and
 1H NMR spectroscopies. The thermal degradation behavior of the polymaleamides
 was studied by mass spectrometry and thermogravimetric anal.;
 fragmentation schemes for the polymaleamides are proposed.
 ST polymaleamide prepn ring opening polyaddn bisisomaleimide; thermal degrdn
 polymaleamide; methylenedianilinobisisomaleimide arom diamine ring opening
 polyaddn
 IT Polyamides, preparation
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN
 (Synthetic preparation); PREP (Preparation); PROC (Process)
 (maleamide-based; preparation, characterization and thermal degradation of
 polymaleimides prepared by ring-opening polyaddn. of bisisomaleimides)
 IT Polymerization
 (ring-opening; preparation of polymaleimides by ring-opening polyaddn. of
 bisisomaleimides)
 IT Polymer degradation
 (thermal; preparation, characterization and thermal degradation of
 polymaleimides prepared by ring-opening polyaddn. of bisisomaleimides)
 IT 62-53-3, Aniline, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (model compound starting material; preparation of bisisomaleimide monomers for
 ring-opening polyaddn.)
 IT 57018-29-8P 118694-36-3P
 RL: NUU (Other use, unclassified); SPN (Synthetic preparation); PREP
 (Preparation); USES (Uses)
 (model compound; preparation of bisisomaleimide monomers for ring-opening
 polyaddn.)
 IT 15189-88-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (monomer intermediate; preparation of bisisomaleimide monomers for
 ring-opening polyaddn.)
 IT 101-77-9 108-31-6, 2,5-Furandione, reactions 302-01-2, Hydrazine,
 reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (monomer starting material; preparation of bisisomaleimide monomers for
 ring-opening polyaddn.)
 IT 6330-01-4P 6990-21-2P 53024-72-9P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)

(monomer; preparation of bisisomaleimide monomers for ring-opening polyaddn.)
 IT 5329-22-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)

(preparation of bisisomaleimide monomers for ring-opening polyaddn.)
 IT 186345-45-9P 186345-46-0P 186345-47-1P 186345-48-2P 186345-49-3P
186345-50-6P 186345-51-7P 186345-52-8P
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN
 (Synthetic preparation); PREP (Preparation); PROC (Process)
 (preparation, characterization and thermal degradation of)

RE. CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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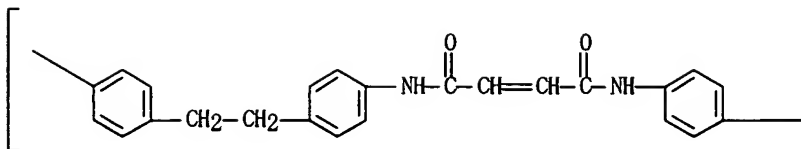
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RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN
 (Synthetic preparation); PREP (Preparation); PROC (Process)
 (preparation, characterization and thermal degradation of)

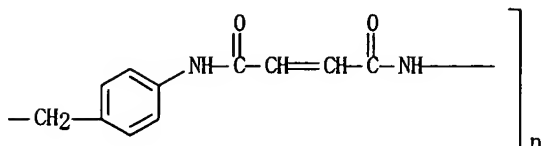
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CN Poly[imino(1,4-dioxo-2-butene-1,4-diyl)imino-1,4-phenylenemethylene-1,4-phenyleneimino(1,4-dioxo-2-butene-1,4-diyl)imino-1,4-phenylene-1,2-ethanediyl-1,4-phenylene], (Z,Z)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



- L51 ANSWER 7 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1996:710653 HCAPLUS
 DN 126:123234
 ED Entered STN: 04 Dec 1996
 TI Predicting the Relative Stabilities of Multiparticle Hydrogen-Bonded
 Aggregates Based on the Number of Hydrogen Bonds and the Number of
 Particles and Measuring These Stabilities with Titrations Using Dimethyl
 Sulfoxide
 AU Mammen, Mathai; Simanek, Eric E.; Whitesides, George M.
 CS Department of Chemistry and Chemical Biology, Harvard University,
 Cambridge, MA, 02138, USA
 SO Journal of the American Chemical Society (1996), 118(50), 12614-12623
 CODEN: JACSAT; ISSN: 0002-7863
 PB American Chemical Society
 DT Journal
 LA English
 CC 68-4 (Phase Equilibria, Chemical Equilibria, and Solutions)
 Section cross-reference(s): 6, 28, 63, 69, 77
 AB An exptl. method for determining the relative stabilities of H bonded aggregates
 in terms of the mol fraction of DMSO in CHCl3 solution (xDMSO) required
 to cause their dissociation. It also describes 3 indexes (ITm, IG, and
 IG/(N-1)) that estimate the relative stabilities of H bonded aggregates. Each
 of these indexes depend on 2 variables, HB and N. HB is the number of H
 bonds holding the aggregate together; N is the number of particles in the
 aggregate. The melting-point index (ITm = HB/(N-1)) corresponds
 conceptually to a "m.p." for the aggregate (i.e., a temperature at which it
 would dissociate into sep. particles). This index is the most useful of the
 3 for "rule of thumb" estimation of relative stability if assembly occurs
 cooperatively. The free energy index (IG = 2.8HB - 16(N-1)) corresponds
 to a free energy of assembly (ΔG) with units kcal/mol. The index
 IG/(N-1) = (2.8HB/(N-1)) - 16 corresponds conceptually to a free energy of
 association per particle, ($\Delta G/(N-1)$). This 3rd index is most useful if
 assembly occurs noncooperatively.
 ST arom heterocycle hydrogen bonded aggregate stability; NMR DMSO titrn
 hydrogen bonded aggregate; melamine isocyanuric acid hydrogen bonded
 aggregate
 IT Entropy
 Free energy
 Hydrogen bond
 Hydrogen bonding enthalpy
 Self-association
 Stability
 (hydrogen-bonded aggregate stability determined by 1H NMR DMSO titration method
 in CHCl3 solution for aromatic and heterocyclic compds. related to
 isocyanuric acid and melamine)
 IT 141727-14-2
 RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation,

nonpreparative)

(hydrogen-bonded aggregate stability determined by ¹H NMR DMSO titration method in CHCl₃ solution for aromatic and heterocyclic compds. related to isocyanuric acid and melamine)

IT 67-68-5, properties

RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)

(hydrogen-bonded aggregate stability determined by ¹H NMR DMSO titration method in CHCl₃ solution for aromatic and heterocyclic compds. related to isocyanuric acid and melamine)

IT 57-44-3 108-78-1D, Melamine, derivs. 108-80-5D, Isocyanuric acid,

derivs. 129001-73-6 129001-74-7 129001-76-9

131296-09-8 141727-15-3 146042-01-5 147355-15-5 154621-58-6

154621-59-7 154621-61-1 155786-10-0 185943-80-0

185943-82-2 185943-85-5 185943-88-8 185943-91-3

186003-95-2 186152-73-8

RL: PRP (Properties)

(hydrogen-bonded aggregate stability determined by ¹H NMR DMSO titration method in CHCl₃ solution for aromatic and heterocyclic compds. related to isocyanuric acid and melamine)

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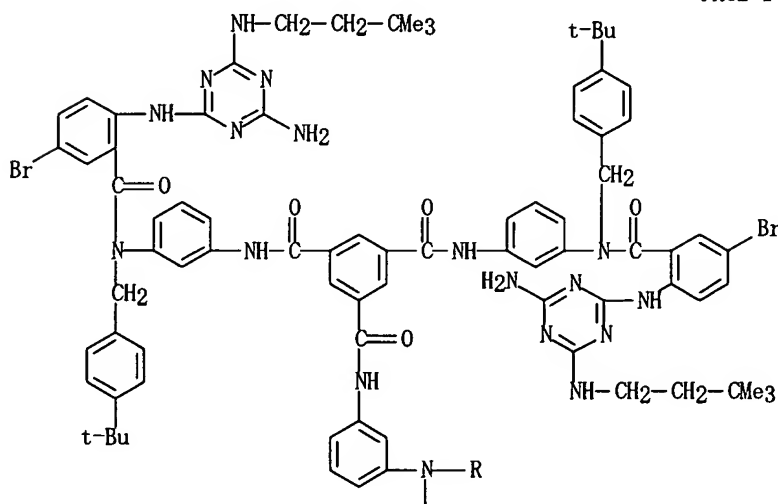
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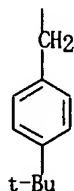
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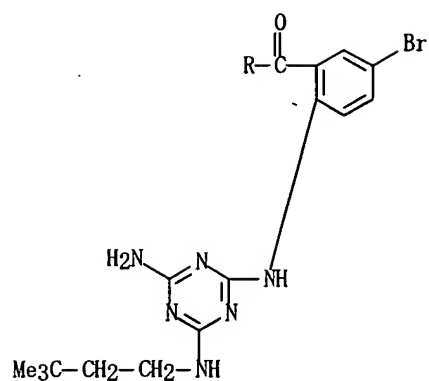
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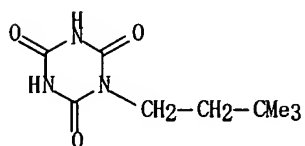
PAGE 3-A



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 1-(3, 3-dimethylbutyl)-1, 3, 5-triazine-2, 4, 6(1H, 3H, 5H)-trione (1:3) (9CI)
 (CA INDEX NAME)

CM 1

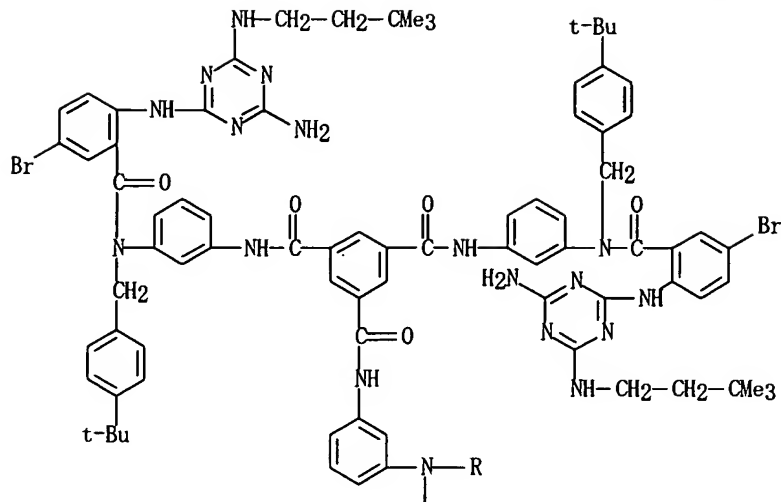
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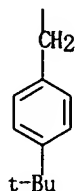
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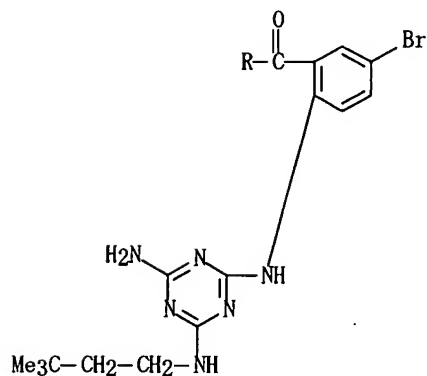
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PAGE 2-A



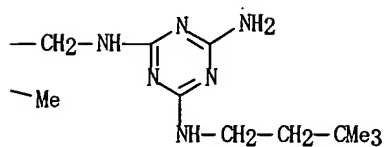
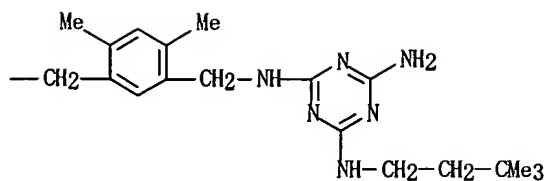
PAGE 3-A



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PAGE 2-B



RN 154621-59-7 HCAPLUS

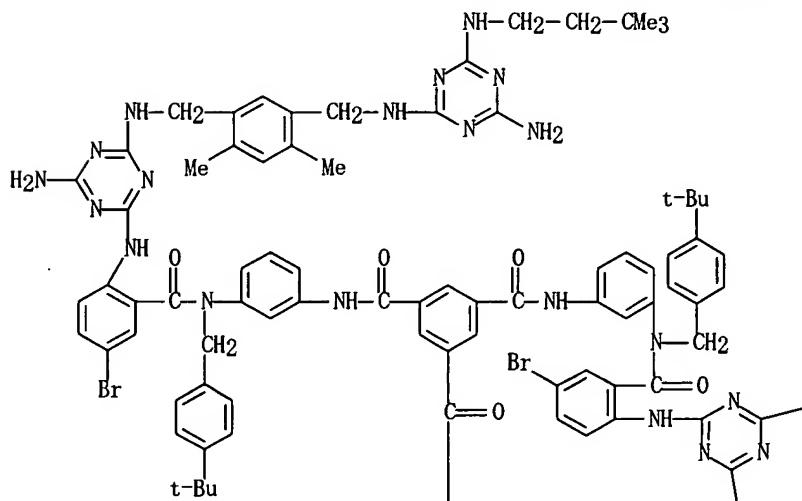
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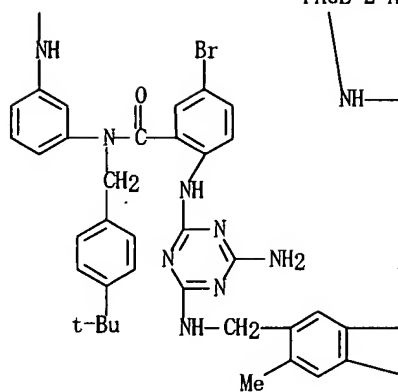
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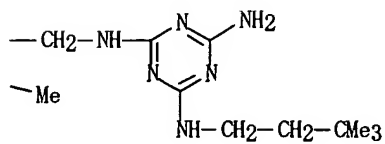
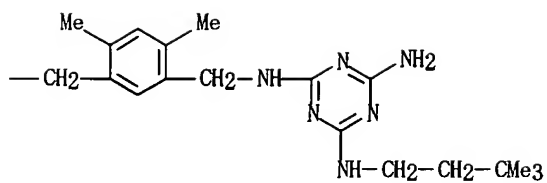
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—NH₂

PAGE 2-A

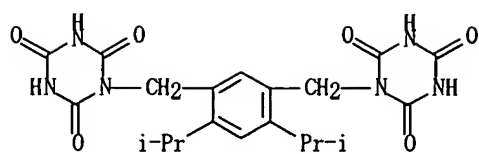


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CRN 131296-09-8
CMF C20 H24 N6 O6



RN 154621-61-1 HCAPLUS

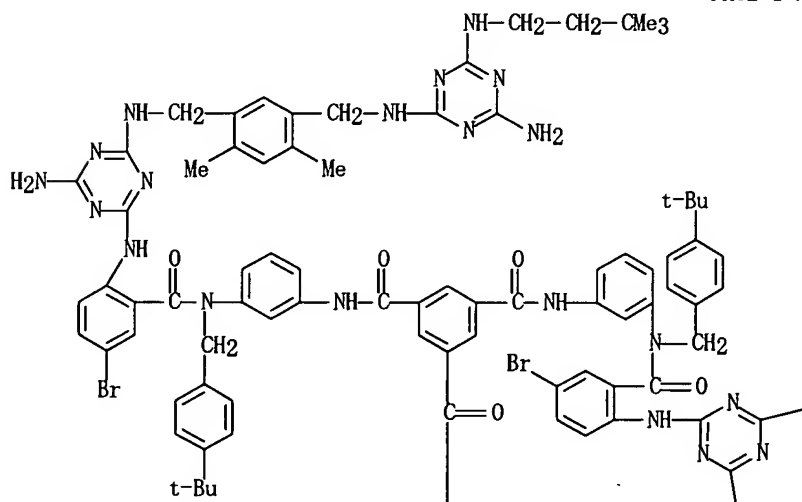
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(CA INDEX NAME)

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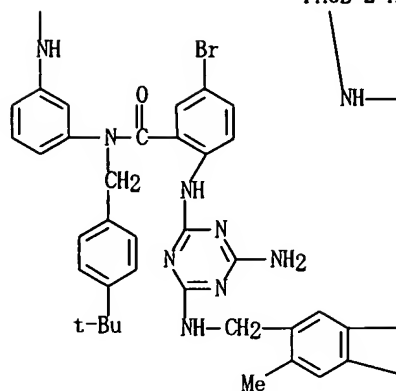
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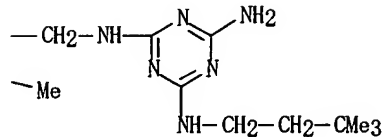
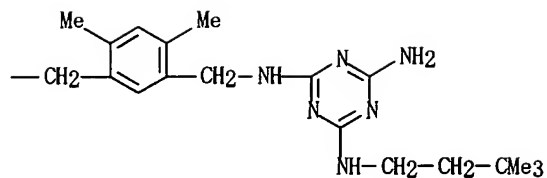
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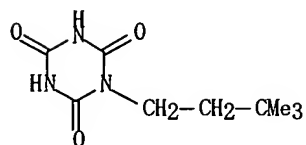
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PAGE 2-B



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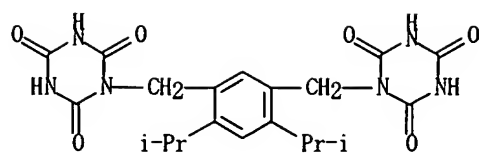
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1,1'-[[4,6-bis(1-methylethyl)-1,3-phenylene]bis(methylene)]bis[1,3,5-triazine-2,4,6(1H,3H,5H)-trione] (2:3) (9CI) (CA INDEX NAME)

CM 1

CRN 131296-09-8
CMF C20 H24 N6 O6

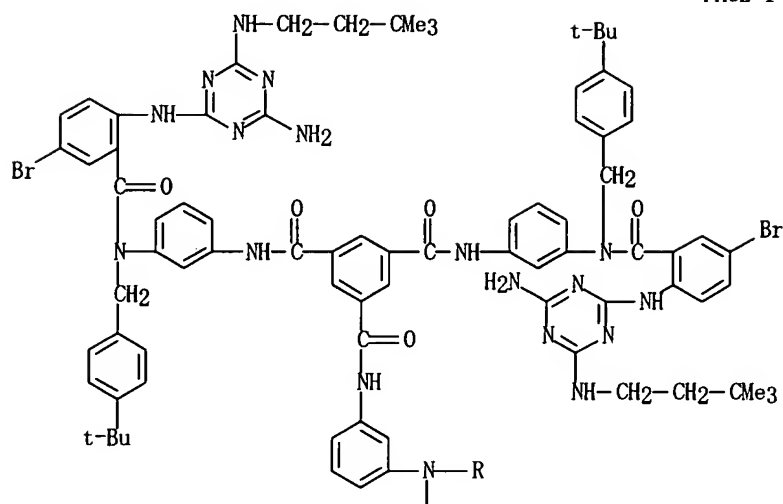


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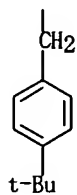
CRN 129001-73-6

CMF C108 H123 Br3 N24 O6

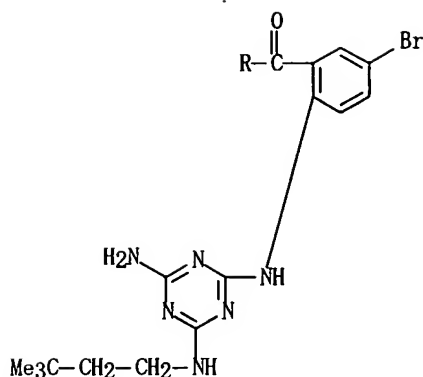
PAGE 1-A



PAGE 2-A



PAGE 3-A

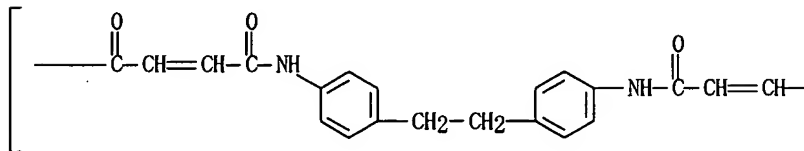


- L51 ANSWER 8 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1996:120007 HCAPLUS
 DN 124:177114
 ED Entered STN: 27 Feb 1996
 TI Synthesis and characterization of new polymaleamides from
 N,N'-ethanedianilinebisisomaleimide with some aromatic diamines
 AU Nagarajan, E. R.; Rajeswari, N.; Nagarathinam, R.; Viswanathan, S.;
 Ramakrishnan, V. T.
 CS Department of Printing Technology, Anna University, Madras, 600 025, India
 SO Polymer International (1996), 39(2), 141-52
 CODEN: PLYIEI; ISSN: 0959-8103
 PB Wiley
 DT Journal
 LA English
 CC 35-5 (Chemistry of Synthetic High Polymers)
 AB Five polymaleamides were synthesized by the ring-opening polyaddn. of
 N,N'-ethanedianilinebisisomaleimide (EBIMI) with aromatic diamines (having Me
 or methoxy ring substituents) at room temperature; EBIMI was synthesized from
 N,N'-ethanedianilinebismaleamic acid. IR, ¹³C NMR, and UV-visible
 spectroscopies, inherent viscosity measurements, thermogravimetry,
 differential scanning calorimetry and mass spectrometry were used to
 characterize these polymers.
 ST ethanedianilinebisisomaleimide prepn copolymn; arom diamine
 ethanedianilinebisisomaleimide copolymn characterization
 IT Nuclear magnetic resonance
 Polymer degradation
 (of aromatic poly(maleimides) prepared from ethanediyl dianilinebisisomaleimi
 de)
 IT Polyamides, preparation
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and characterization of aromatic poly(maleimides))
 IT Chains, chemical
 (structure of aromatic poly(maleimides) prepared from
 ethanediyl dianilinebisisomaleimide)
 IT 174097-15-5P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (intermediate; in preparation of ethanedianilinebisisomaleimide)
 IT 174097-16-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (monomer; preparation and copolymn. of)
 IT 174097-17-7P 174097-18-8P 174097-19-9P 174097-20-2P
 174097-21-3P 174097-22-4P 174097-23-5P 174097-24-6P
 174097-25-7P 174177-87-8P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and characterization of)
 IT 174097-26-8P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

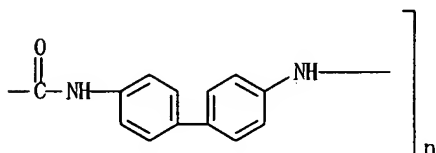
Search done by Noble Jarrell

(preparation and characterization of model compound for polymaleamides)
 IT 108-31-6, 2,5-Furandione, reactions 621-95-4, 4,4'-Diaminobibenzyl
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (starting material; in preparation of ethanedianilinebisisomaleimide)
 IT 174097-21-3P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and characterization of)
 RN 174097-21-3 HCAPLUS
 CN Poly[imino[1,1'-biphenyl]-4,4'-diylimino(1,4-dioxo-2-butene-1,4-diyl)imino-
 1,4-phenylene-1,2-ethanediyl-1,4-phenyleneimino(1,4-dioxo-2-butene-1,4-
 diyl)], (Z,Z)- (9CI) (CA INDEX NAME)

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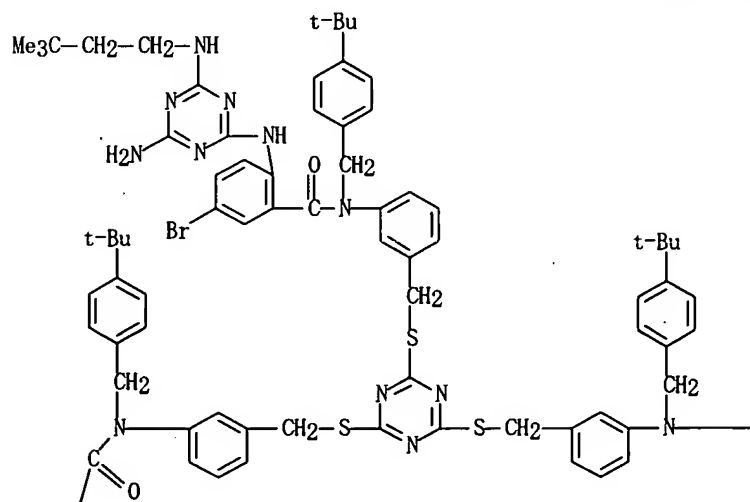
PAGE 1-B



L51 ANSWER 9 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1996:113713 HCAPLUS
 DN 124:202186
 ED Entered STN: 23 Feb 1996
 TI Synthesis and Evaluation of Thioether-Based Tris-Melamines as Components
 of Self-Assembled Aggregates Based on the CA·M Lattice
 AU Li, Xinhua; Chin, Donovan N.; Whitesides, George M.
 CS Department of Chemistry, Harvard University, Cambridge, MA, 02138, USA
 SO Journal of Organic Chemistry (1996), 61(5), 1779-86
 CODEN: JOCEAH; ISSN: 0022-3263
 PB American Chemical Society
 DT Journal
 LA English
 CC 28-20 (Heterocyclic Compounds (More Than One Hetero Atom))
 Section cross-reference(s): 22, 75
 AB Two new tris-melamine derivs., triazine-thio-M3 (M = melamine group-containing
 ligand) and benzene-thio-M3, were prepared from 2,4,6-trithiocyanuric acid
 and 1,3,5-trimercaptobenzene and a bromobenzyl melamine derivative. In these
 compds. the central "hub" and the attached "spokes" are attached by
 thioether linkages rather than amide linkages. These two compds. formed
 stable and structurally well-defined 1+3 supramol. aggregates with
 neoheptyl isocyanurate as shown by NMR spectroscopy and gel permeation
 chromatog. 1H NMR competition expts. indicated that the stability of
 triazine-thio-M3·(neoheptyl isocyanurate)3 was similar to that of
 benzene-thio-M3·(neoheptyl isocyanurate)3. The order of stabilities
 of tris-melamine-based 1+3 complexes was hubM3·(neoheptyl
 isocyanurate)3 > triazine-thio-M3·(neoheptyl isocyanurate)3 .apprx.
 benzene-thio-M3·(neoheptyl isocyanurate)3 > flexM3·(neoheptyl
 isocyanurate)3. Computational simulations were also carried out on
 triazine-thio-M3·(neoheptyl isocyanurate)3 and hubM3·
 (neoheptyl isocyanurate)3 fully solvated in CHCl3. Values of DP (the
 deviation from planarity of the cyanuric acid and melamine rosette)
 obtained from these simulations correlated correctly with the observed
 stabilities and suggested a structural reason why triazine-thio-
 M3·(neoheptyl isocyanurate)3 was less stable than

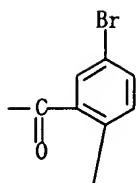
- hubM3·(neoheyl isocyanurate)3.
- ST thioether melamine prepn conformation stability structure; aggregate crystal lattice thioether melamine prepn; crystal structure lattice aggregate melamine thioether; mol structure lattice aggregate melamine thioether
- IT Conformation and Conformers
Crystal structure
Molecular structure
Polymer morphology
(preparation and evaluation of thioether-based tris-melamines as components of aggregates)
- IT Clusters
Enthalpy and Enthalpy function
Entropy
(preparation and evaluation of thioether-based tris-melamines as components of aggregates based on CA·M lattice)
- IT Stability
(relative, preparation and evaluation of thioether-based tris-melamines as components of aggregates based on CA·M lattice)
- IT **174355-82-9P 174355-90-9P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and evaluation of thioether-based tris-melamines as components of aggregates)
- IT 638-16-4, Trithiocyanuric acid 1877-77-6, 3-Aminobenzyl alcohol 15673-00-4 38004-59-0, 1,3,5-Trimercaptobenzene 129001-74-7 147355-04-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation and evaluation of thioether-based tris-melamines as components of aggregates)
- IT 159217-95-5P 174355-83-0P 174355-84-1P 174355-85-2P 174355-86-3P 174355-87-4P 174355-88-5P 174355-89-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and evaluation of thioether-based tris-melamines as components of aggregates)
- IT **174355-82-9P 174355-90-9P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and evaluation of thioether-based tris-melamines as components of aggregates)
- RN 174355-82-9 HCAPLUS
- CN Benzamide, N,N',N'-[1,3,5-triazine-2,4,6-triyltris(thiomethylene-3,1-phenylene)]tris[2-[[4-amino-6-[(3,3-dimethylbutyl)amino]-1,3,5-triazin-2-yl]amino]-5-bromo-N-[[4-(1,1-dimethylethyl)phenyl]methyl]- (9CI) (CA INDEX NAME)

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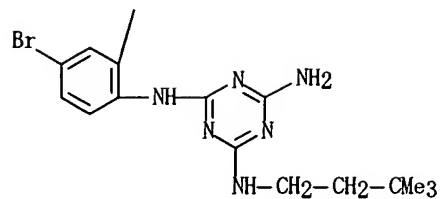


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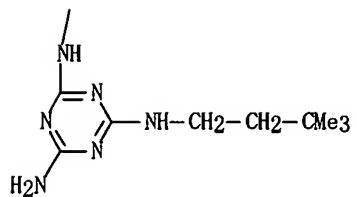
PAGE 1-B



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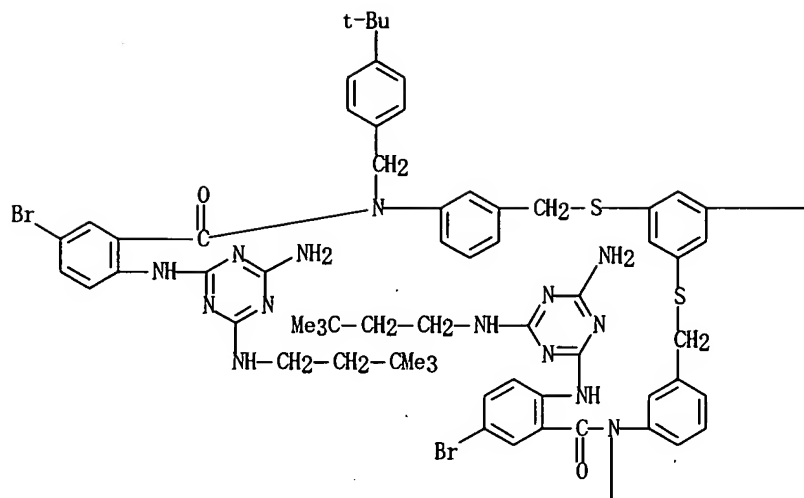


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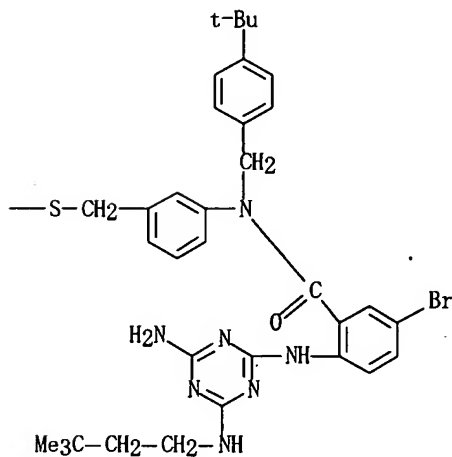


RN 174355-90-9 HCAPLUS
 CN Benzamide, N, N', N''-[1, 3, 5-benzenetriyltris(thiomethylene-3, 1-phenylene)] tris[2-[[4-amino-6-[(3, 3-dimethylbutyl)amino]-1, 3, 5-triazin-2-yl]amino]-5-bromo-N-[[4-(1, 1-dimethylethyl)phenyl]methyl]- (9CI) (CA INDEX NAME)

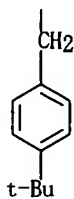
PAGE 1-A



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PAGE 2-A



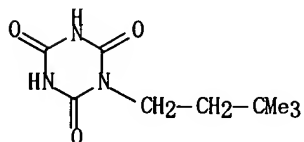
L51 ANSWER 10 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1995:493290 HCAPLUS
 DN 122:264788
 ED Entered STN: 18 Apr 1995
 TI Detection of hydrogen-bonded supramolecular complexes using electrospray
 ionization from chloroform
 AU Cheng, Xueheng; Gao, Quanyin; Smith, Richard D.; Simanek, Eric E.; Mammen,

Search done by Noble Jarrell

- Mathia; Whitesides, George M.
 CS Chem. Sci. Dep. Environ. Mol. Sci. Lab., Pacific Northwest Lab., Richland,
 WA, 99352, USA
 SO Rapid Communications in Mass Spectrometry (1995), 9(4), 312-16
 CODEN: RCMSEF; ISSN: 0951-4198
 PB Wiley
 DT Journal
 LA English
 CC 22-8 (Physical Organic Chemistry)
 AB The stoichiometry of a noncovalent, hydrogen-bonded supramol. complex,
 hub(M)3. RCA3, was characterized using electrospray ionization from
 chloroform. The intact (1:3) complex was observed in the neg.-ion mode as a
 Cl⁻-bound species using Ph4PCl as the source of the charge donor.
 Collisionally and thermally induced dissociation of the (1:3) complex resulted
 in the simultaneous loss of all the three RCA units, indicating a
 cooperative binding of RCA units in the (1:3) complex. These results
 suggest that the attachment of small, organic-soluble ions may be a useful
 technique for mass spectrometric characterization of neutral supramol.
 complexes that are stable or soluble only in nonpolar organic solvents.
 ST hydrogen bonded supramol complex mass spectra; supramol complex
 electrospray ionization mass spectra
 IT Hydrogen bond
 Mass spectra
 (detection of hydrogen-bonded supramol. complexes using electrospray
 ionization from chloroform)
 IT 2001-45-8, Tetraphenylphosphonium chloride
 RL: NUU (Other use, unclassified); USES (Uses)
 (detection of hydrogen-bonded supramol. complexes using electrospray
 ionization from chloroform)
 IT 129001-76-9
 RL: PRP (Properties)
 (detection of hydrogen-bonded supramol. complexes using electrospray
 ionization from chloroform)
 IT 129001-76-9
 RL: PRP (Properties)
 (detection of hydrogen-bonded supramol. complexes using electrospray
 ionization from chloroform)
 RN 129001-76-9 HCAPLUS
 CN 1,3,5-Benzenetricarboxamide, N,N',N''-tris[3-[[2-[[4-amino-6-[(3,3-
 dimethylbutyl)amino]-1,3,5-triazin-2-yl]amino]-5-bromobenzoyl][4-(1,1-
 dimethylethyl)phenyl]methyl]amino]phenyl]-, compd. with
 1-(3,3-dimethylbutyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (1:3) (9CI)
 (CA INDEX NAME)

CM 1

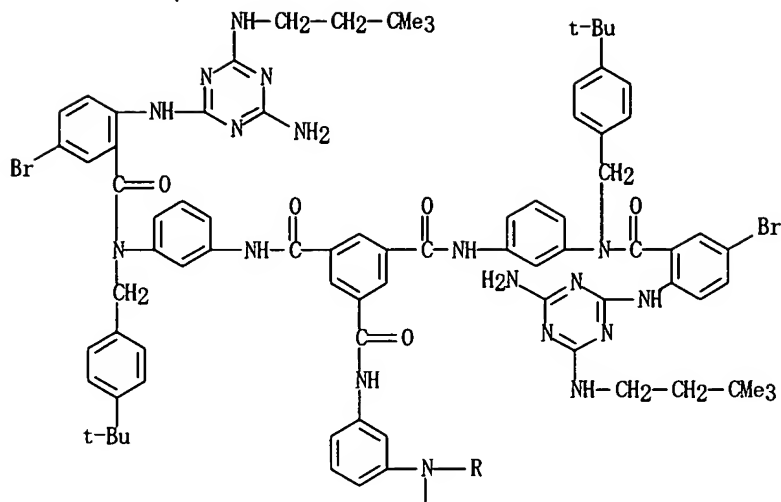
CRN 129001-74-7
 CMF C9 H15 N3 O3



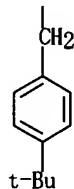
CM 2

CRN 129001-73-6
 CMF C108 H123 Br3 N24 O6

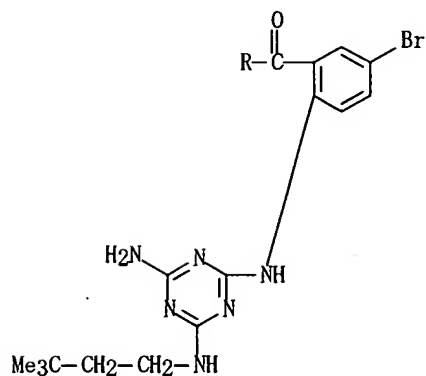
PAGE 1-A



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L51 ANSWER 11 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1994:456892 HCAPLUS
 DN 121:56892
 ED Entered STN: 06 Aug 1994
 TI Self-Assembly through Hydrogen Bonding: Preparation and Characterization
 of Three New Types of Supramolecular Aggregates Based on Parallel Cyclic
 CA3-M3 "Rosettes"
 AU Mathias, John P.; Seto, Christopher T.; Simanek, Eric E.; Whitesides,

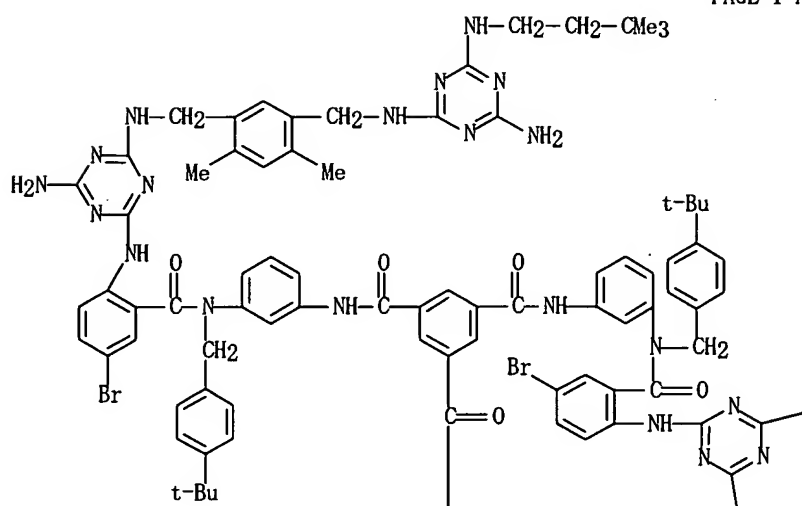
Search done by Noble Jarrell

George M.
 CS Department of Chemistry, Harvard University, Cambridge, MA, 02138, USA
 SO Journal of the American Chemical Society (1994), 116(5), 1725-36
 CODEN: JACSAT; ISSN: 0002-7863
 DT Journal
 LA English
 CC 22-13 (Physical Organic Chemistry)
 GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

- AB Reaction of hub(MM)3, a compound (I) containing six melamines, with monomeric, dimeric, and trimeric derivs. of isocyanuric acid yields three new types of hydrogen-bonded self-assembled supramol. aggregates. These new aggregates are represented by hub(MM)3:3benz(CA)2 and hub(MM)3:3furan(CA)2, hub(MM)3:6neohehex(CA), and hub(MM)3:3neohehex(CA):C18hub(CA)3 [e.g., benz(CA)2 = II]. These supramol. aggregates are composed of 4-7 individual mols. and have mol. wts. in the range 4.1-6.3 kDa. Each aggregate is stabilized by 36 hydrogen bonds in two parallel cyclic CA3·M3 "rosettes". Characterization of these aggregates by 1H and 13C NMR spectroscopies, gel permeation chromatog., and vapor pressure osmometry confirms that each exists as a stable, well-defined structure in chloroform or methylene chloride solns. The design of these self-assembled aggregates, their relative stabilities, and the techniques used for their characterization are discussed. The operation of pos. cooperativity in the self-assembly of hub(MM)3:6neohehex(CA) is demonstrated. The self-assembly of hub(MM)3:3neohehex(CA):C18hub(CA)3 demonstrates the controlled aggregation of three different components into a single supramol. aggregate. The size and stability of these self-assembled aggregates are correlated with results obtained from gel permeation chromatog.
- ST self assembly hydrogen bond; supramol aggregate rosette; melamine hydrogen bond isocyanuric acid
- IT Hydrogen bond
 Molecular association
 (hydrogen-bonded self-assembled supramol. aggregates of melamine derivs. with isocyanuric acid derivs.)
- IT 1333-74-0
 RL: PRP (Properties)
 (hydrogen bond, hydrogen-bonded self-assembled supramol. aggregates of melamine derivs. with isocyanuric acid derivs.)
- IT 1889-05-0P 32280-53-8P 154621-52-0P 154621-53-1P 154621-54-2P 154621-55-3P 154621-56-4P 154621-57-5P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (intermediate in preparation of precursor for hydrogen-bonded self-assembled supramol. aggregates)
- IT 154621-58-6P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and participation in hydrogen-bonded self-assembled supramol. aggregates with isocyanuric acid derivs.)
- IT 154621-59-7P 154621-60-0P 154621-61-1P 154621-62-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
- IT 108-38-3, m-Xylene, reactions 108-77-0, Cyanuric chloride 4422-95-1, 1,3,5-Benzenetricarbonyl trichloride 58632-95-4 147355-07-5
 RL: PRP (Properties)
 (reactant, in preparation of precursor for hydrogen-bonded self-assembled supramol. aggregates)
- IT 154621-58-6P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and participation in hydrogen-bonded self-assembled supramol. aggregates with isocyanuric acid derivs.)
- RN 154621-58-6 HCAPLUS
 CN 1,3,5-Benzenetricarboxamide, N,N',N''-tris[3-[[2-[[4-amino-6-[[[5-[[[4-amino-6-[(3,3-dimethylbutyl)amino]-1,3,5-triazin-2-yl]amino]methyl]-2,4-dimethylphenyl]methyl]amino]-1,3,5-triazin-2-yl]amino]-5-bromobenzoyl][[4-

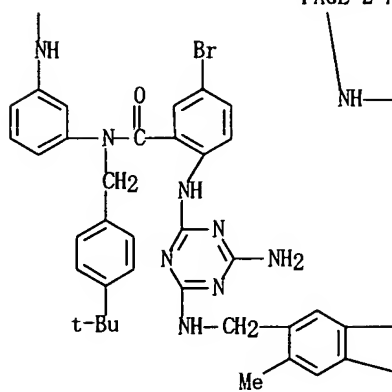
PAGE 1-A



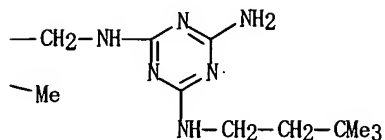
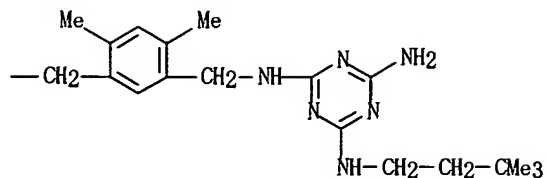
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 —NH_2

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PAGE 2-B



IT 154621-59-7P 154621-60-0P 154621-61-1P
154621-62-2P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 154621-59-7 HCAPLUS

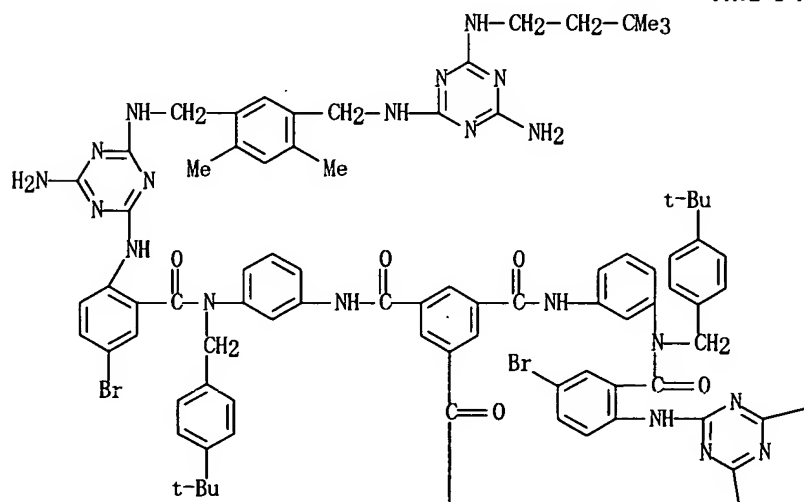
CN 1, 3, 5-Benzenetricarboxamide, N, N', N''-tris[3-[[2-[[4-amino-6-[[[5-[[[4-amino-6-[(3, 3-dimethylbutyl)amino]-1, 3, 5-triazin-2-yl]amino]methyl]-2, 4-dimethylphenyl]methyl]amino]-1, 3, 5-triazin-2-yl]amino]-5-bromobenzoyl][[4-(1, 1-dimethylethyl)phenyl]methyl]amino]phenyl]-, compd. with 1, 1'-[[4, 6-bis(1-methylethyl)-1, 3-phenylene]bis(methylene)]bis[1, 3, 5-triazine-2, 4, 6(1H, 3H, 5H)-trione] (1:3) (9CI) (CA INDEX NAME)

CM 1

CRN 154621-58-6

CMF C147 H171 Br3 N42 O6

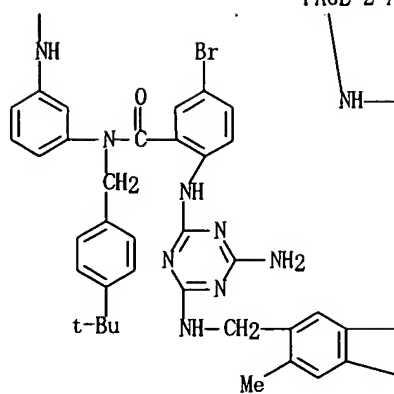
PAGE 1-A



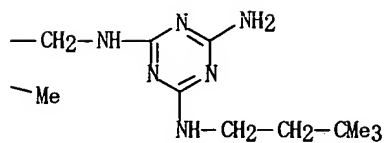
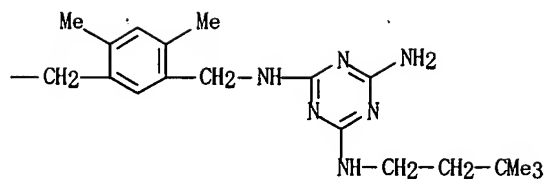
PAGE 1-B

—NH₂

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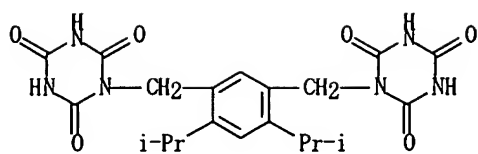


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CM 2

CRN 131296-09-8
CMF C20 H24 N6 O6



RN 154621-60-0 HCAPLUS

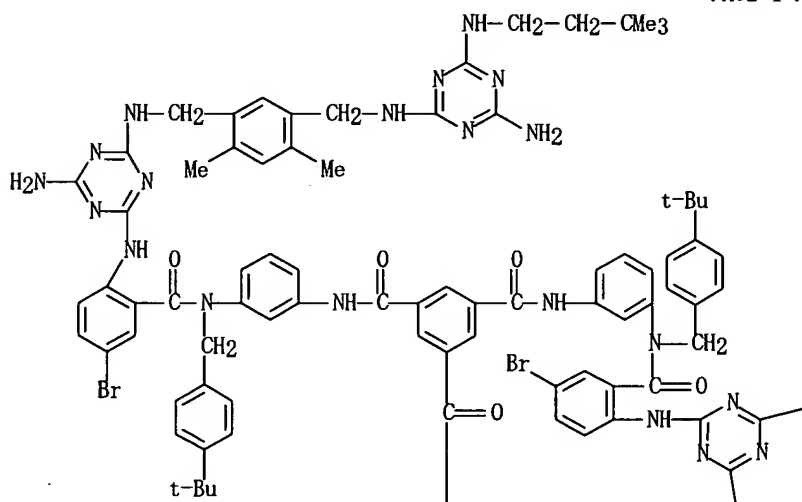
CN 1,3,5-Benzenetricarboxamide, N,N',N''-tris[3-[[2-[[4-amino-6-[[[5-[[[4-amino-6-[(3,3-dimethylbutyl)amino]-1,3,5-triazin-2-yl]amino]methyl]-2,4-dimethylphenyl]methyl]amino]-1,3,5-triazin-2-yl]amino]-5-bromobenzoyl][[4-(1,1-dimethylethyl)phenyl]methyl]amino]phenyl]-, compd. with 1,1'-[[3,4-bis(1-methylethyl)-2,5-furandiyl]bis(methylene)]bis[1,3,5-triazine-2,4,6(1H,3H,5H)-trione] (1:3) (9CI) (CA INDEX NAME)

CM 1

CRN 154621-58-6

CMF C147 H171 Br3 N42 O6

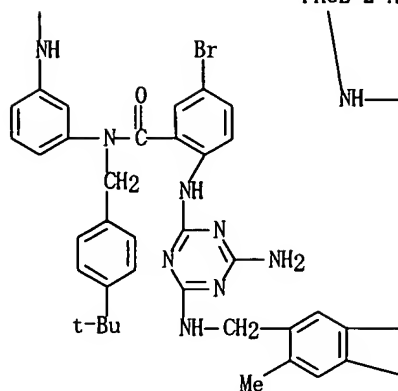
PAGE 1-A



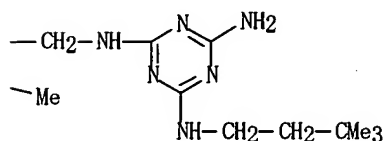
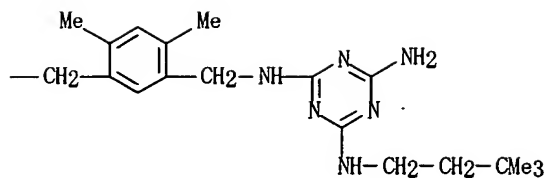
PAGE 1-B

—NH₂

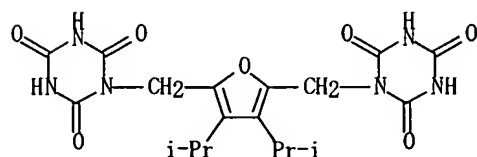
PAGE 2-A



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CM 2

CRN 146651-79-8
CMF C18 H22 N6 O7

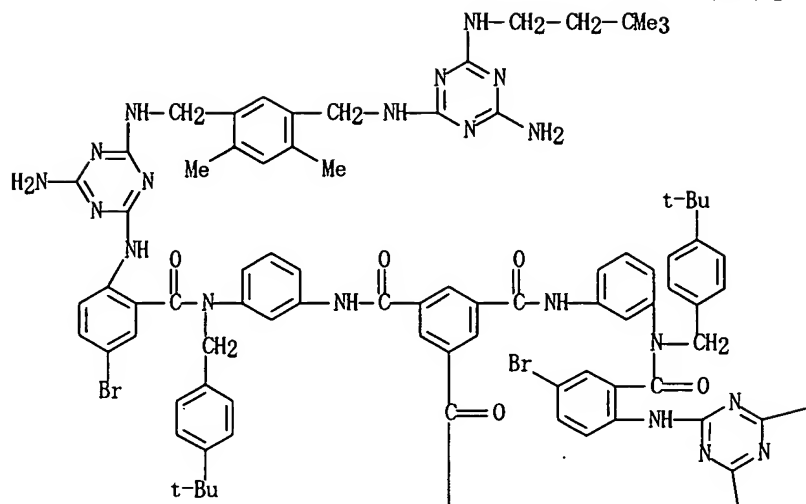
RN 154621-61-1 HCAPLUS

CM 1, 3, 5-Benzenetricarboxamide, N,N',N''-tris[3-[[2-[[4-amino-6-[[[5-[[[4-amino-6-[(3,3-dimethylbutyl)amino]-1,3,5-triazin-2-yl]amino]methyl]-2,4-dimethylphenyl]methyl]amino]-1,3,5-triazin-2-yl]amino]-5-bromobenzoyl][[4-(1,1-dimethylethyl)phenyl]methyl]amino]phenyl]-, compd. with 1-(3,3-dimethylbutyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (1:6) (9CI)
(CA INDEX NAME)

CM 1

CRN 154621-58-6
CMF C147 H171 Br3 N42 O6

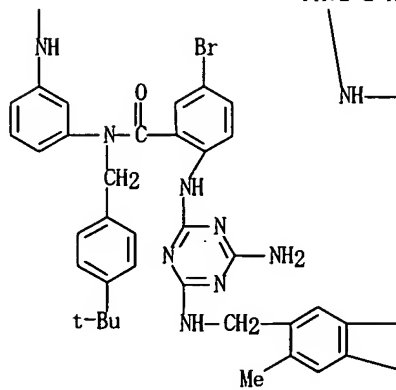
PAGE 1-A



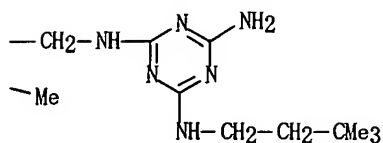
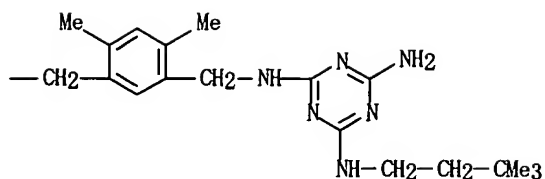
PAGE 1-B

—NH₂

PAGE 2-A

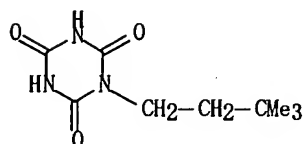


PAGE 2-B



CM 2

CRN 129001-74-7
CMF C9 H15 N3 O3

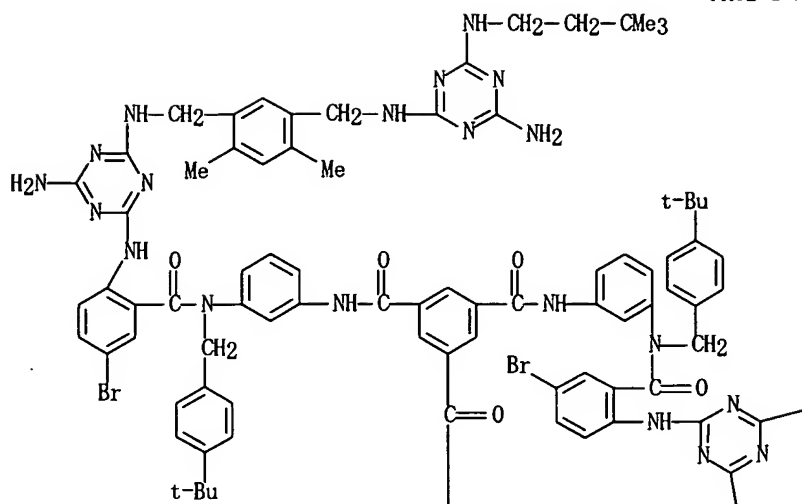


RN 154621-62-2 HCAPLUS
CN 1, 3, 5-Benzenetricarboxamide, N,N',N''-tris[3-[[2-[[4-amino-6-[[[5-[[[4-amino-6-[(3, 3-dimethylbutyl)amino]-1, 3, 5-triazin-2-yl]amino]methyl]-2, 4-dimethylphenyl]methyl]amino]-1, 3, 5-triazin-2-yl]amino]-5-bromobenzoyl][4-(1, 1-dimethylethyl)phenyl]methyl]amino]phenyl]-, compd. with N,N',N''-tris[2-[octadecyl[5-(octadecyloxy)-2-(tetrahydro-2, 4, 6-trioxo-1, 3, 5-triazin-1(2H)-yl)benzoyl]amino]phenyl]-1, 3, 5-benzenetricarboxamide (1:3) (9CI) (CA INDEX NAME)

CM 1

CRN 154621-58-6
CMF C147 H171 Br3 N42 O6

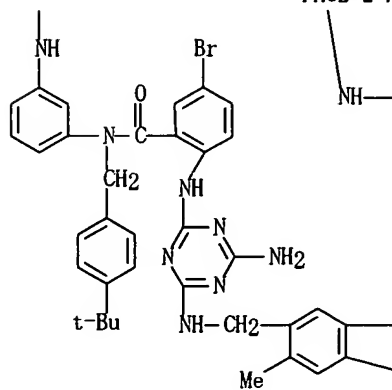
PAGE 1-A



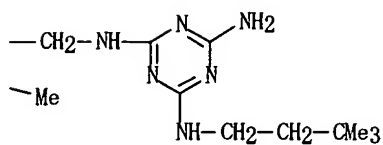
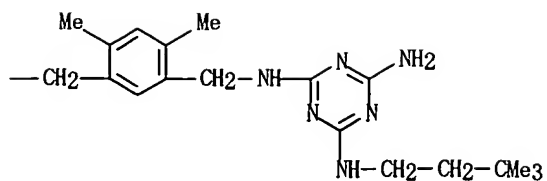
PAGE 1-B



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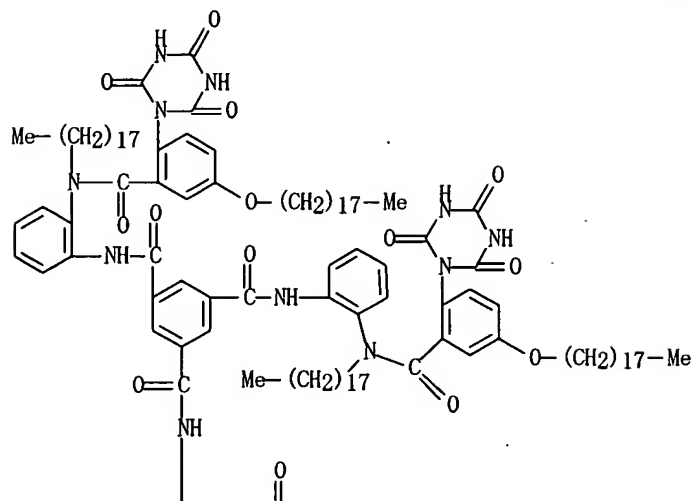
PAGE 2-B



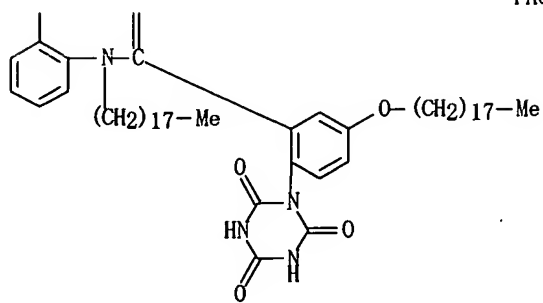
CM 2

CRN 146042-01-5
CMF C165 H255 N15 018

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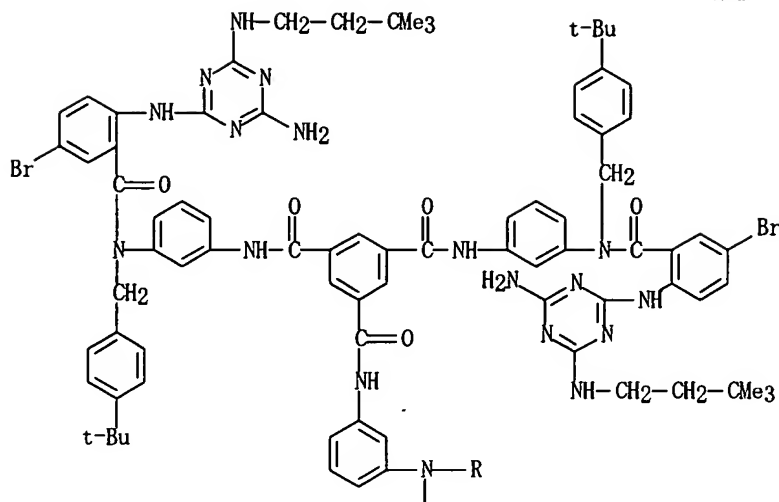
PAGE 2-A



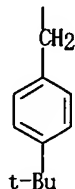
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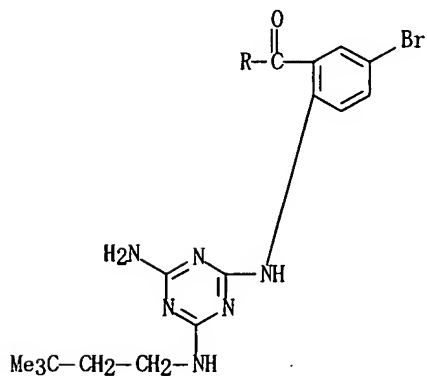
PAGE 1-A



PAGE 2-A

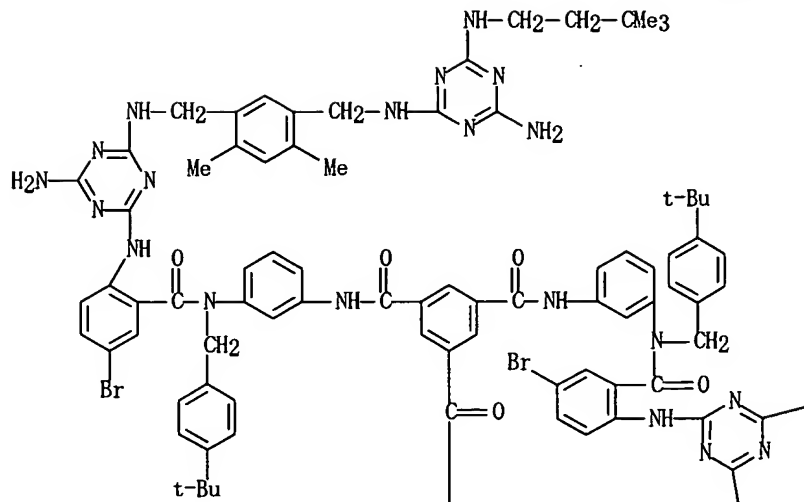


PAGE 3-A



RN 154621-58-6 HCAPLUS
 CN 1, 3, 5-Benzenetricarboxamide, N, N', N''-tris[3-[[2-[[4-amino-6-[[[5-[[[4-amino-6-[(3,3-dimethylbutyl)amino]-1,3,5-triazin-2-yl]amino]methyl]-2,4-dimethylphenyl]methyl]amino]-1,3,5-triazin-2-yl]amino]-5-bromobenzoyl][4-(1,1-dimethylethyl)phenyl]methyl]amino]phenyl]- (9CI) (CA INDEX NAME)

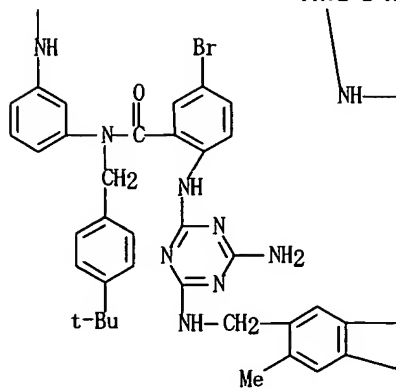
PAGE 1-A



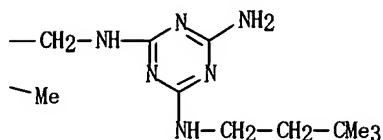
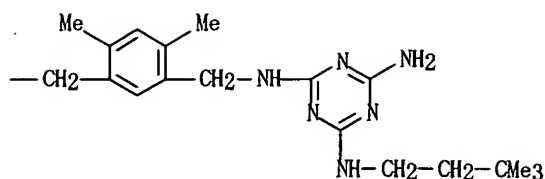
PAGE 1-B



PAGE 2-A

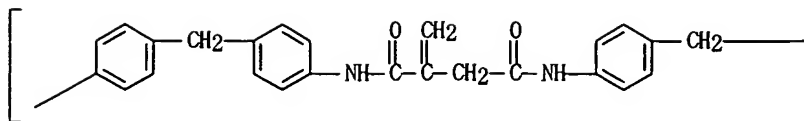


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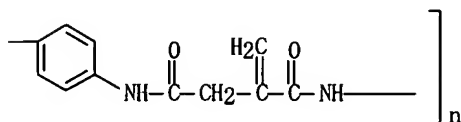


- L51 ANSWER 13 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1993:604476 HCAPLUS
 DN 119:204476
 ED Entered STN: 13 Nov 1993
 TI Cure optimization studies of polyamino bis-itaconimide polymer by TMA and TG
 AU Krishnan, K.; Vijayan, T. M.; Ninan, K. N.
 CS Propellants Spec. Chem. Group, Vikram Sarabhai Space Cent., Trivandrum, 695022, India
 SO Proc. Natl. Symp. Therm. Anal., 8th (1991), 385-7. Editor(s): Dharwadkar, S. R. Publisher: Indian Therm. Anal. Soc., Bombay, India. CODEN: 58QBAY
 DT Conference
 LA English
 CC 37-5 (Plastics Manufacture and Processing)
 AB N,N'-bis(itaconamic acid) p,p'-diphenylmethane, prepared by reacting itaconic anhydride and p,p'-diaminodiphenylmethane, was chemical imidized in DMF. The chain extended polyaminobisitaconimide polymer was prepared by Michael type addition reaction of the pre-polymer and the same aromatic diamine. The resin cured under pressure was evaluated for its glass transition temperature, thermal stability, and degradation kinetics using thermoanal. techniques such as thermomech. anal. and thermogravimetry. The effect of post-cure on the thermal behavior of the polymer was studied in detail.
 ST cure optimization polyaminobisitaconimide thermal analysis; itaconimide polymer cure optimization
 IT Polyimides, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (bisitaconimide-based, crosslinking of, optimization of, thermal anal. for)
 IT Glass temperature and transition
 (of bis(itaconamic acid) polyimides)
 IT Crosslinking
 (of bis(itaconamic acid) polyimides, optimization of, thermal anal. of)
 IT **102773-39-7** 102792-51-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (crosslinking of, optimization of, thermal anal. for)
 IT **102773-39-7**
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (crosslinking of, optimization of, thermal anal. for)
 RN 102773-39-7 HCAPLUS
 CN Poly[imino(2-methylene-1,4-dioxo-1,4-butanediyl)imino-1,4-phenylenemethylene-1,4-phenyleneimino(3-methylene-1,4-dioxo-1,4-butanediyl)imino-1,4-phenylenemethylene-1,4-phenylene] (9CI) (CA INDEX NAME)

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- L51 ANSWER 14 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1993:254892 HCAPLUS
 DN 118:254892
 ED Entered STN: 26 Jun 1993
 TI Molecular self-assembly through hydrogen bonding: supramolecular aggregates based on the cyanuric acid-melamine lattice
 AU Seto, Christopher T.; Whitesides, George M.
 CS Dep. Chem., Harvard Univ., Cambridge, MA, 02138, USA
 SO Journal of the American Chemical Society (1993), 115(3), 905-16
 CODEN: JACSAT; ISSN: 0002-7863
 DT Journal
 LA English
 CC 28-23 (Heterocyclic Compounds (More Than One Hetero Atom))
 Section cross-reference(s): 1
 OS CASREACT 118:254892
 AB Reaction of the tris(melamine) derivs. hubM3 (C6H3-1,3,5-[CONHC6H4-3-N(CH2C6H4-4-CMe3)COC6H3-2-NHC3N3(NH2)(NHCH2CH2CMe3)-5-Br]3) and flexM3 (C6H3-1,3,5-[CO2(CH2)3OCOC6H4-2-NHC3N3(NH2)(NHCH2CH2CMe3)]3) with R1CA (neoheptyl isocyanurate) and R2CA (3,3,3-triphenylpropyl isocyanurate), resp., in CHCl3 yields structurally well-defined supramol. aggregates hubM3(R1CA)3 and flexM3(R2CA)3. These structures were characterized using 1H NMR, 13C NMR, and UV spectroscopy, gel permeation chromatog., and vapor pressure osmometry. FlexM3 is a conformationally flexible analog of hubM3. The greater degree of preorganization that is build into the mol. structure of hubM3 compared to flexM3 makes hubM3(R1CA)3 a more stable aggregate than flexM3(R2CA)3. These self-assembling structures are the first step in a program to design, synthesize, and develop methods to characterize supramol. complexes that are held together by networks of noncovalent interactions.
 ST supramol aggregate cyanuric acid melamine lattice; RNA supramol aggregate cyanuric acid melamine; safety use nitro compd
 IT Hydrogen bond
 (in cyanuric acid-melamine supramol. aggregates)
 IT Safety
 (in handling nitro compds.)
 IT 900-91-4, 3,3,3-Triphenylpropanoic acid
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (chlorination of)
 IT 541-69-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (dimethylethoxycarbonylation of)
 IT 1333-74-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (hydrogen bond, in cyanuric acid-melamine supramol. aggregates)
 IT 108-19-0, Biuret
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (nitration of)
 IT 147355-04-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)
(preparation and chlorination of)

IT 68621-88-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and condensation reaction of, with tert-butylbenzyl bromide)

IT 129001-76-9P 147860-68-2P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and properties of)

IT 147355-09-7P 147355-10-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reaction of, with benzenetricarbonyl chloride)

IT 147355-03-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reaction of, with bromobenzoyl chloride)

IT 88-95-9P, Phthaloyl dichloride 147355-06-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reaction of, with cyanuric chloride)

IT 147355-14-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reaction of, with di-Et carbonate)

IT 147355-05-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reaction of, with hydrazine)

IT 129001-73-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reaction of, with neoheptyl isocyanurate)

IT 147355-07-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reaction of, with neoheptylamine)

IT 94964-61-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reaction of, with nitrobiuret)

IT 147355-08-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reaction of, with trifluoroacetic acid)

IT 147355-12-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reaction of, with triphenylpropyl isocyanurate)

IT 129001-74-7P 147355-15-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reaction of, with tris(melamine) derivative)

IT 147355-11-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reaction with di-Et carbonate)

IT 16326-62-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reaction with dimethylbutylamine)

IT 147355-13-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reduction of)

IT 41839-95-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

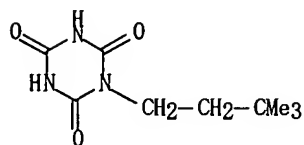
IT 18880-00-7
RL: RCT (Reactant); RACT (Reactant or reagent)

- (reaction of, with [(dimethylethoxy)carbonyl]diaminobenzene)
- IT 504-63-2, 1,3-Propanediol
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with anthranilic acid)
- IT 108-77-0, Cyanuric chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with carbamate derivative)
- IT 58632-95-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with diaminobenzene)
- IT 5794-88-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with phthaloyl dichloride)
- IT 118-92-3, Anthranilic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with propanediol)
- IT 4422-95-1, 1,3,5-Benzenetricarbonyl trichloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with triazinyl aminophenylamine derivative)
- IT 15673-00-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactions of, with nitrobiuret or carbamate derivative)
- IT 15207-30-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(tert-butoxycarbonylation of)
- IT **129001-76-9P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and properties of)
- RN 129001-76-9 HCAPLUS
CN 1,3,5-Benzenetricarboxamide, N,N',N''-tris[3-[[2-[[4-amino-6-[(3,3-dimethylbutyl)amino]-1,3,5-triazin-2-yl]amino]-5-bromobenzoyl][4-(1,1-dimethylethyl)phenyl]methyl]amino]phenyl]-, compd. with
1-(3,3-dimethylbutyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (1:3) (9CI)
(CA INDEX NAME)

CM 1

CRN 129001-74-7

CMF C9 H15 N3 O3

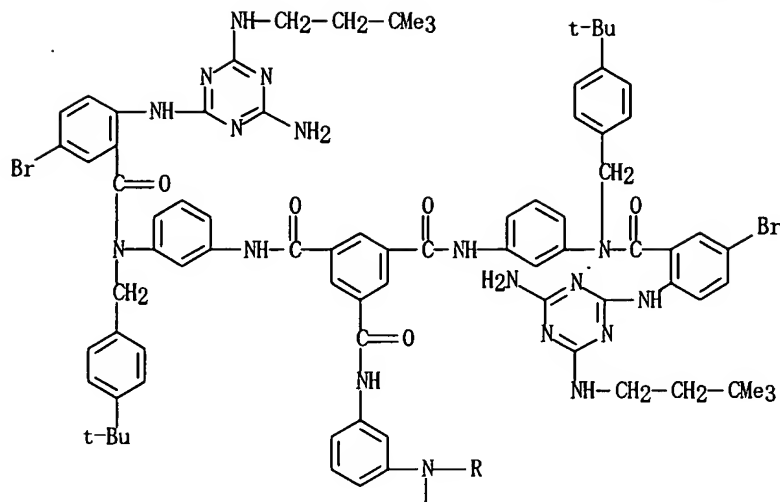


CM 2

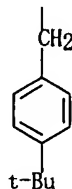
CRN 129001-73-6

CMF C108 H123 Br3 N24 O6

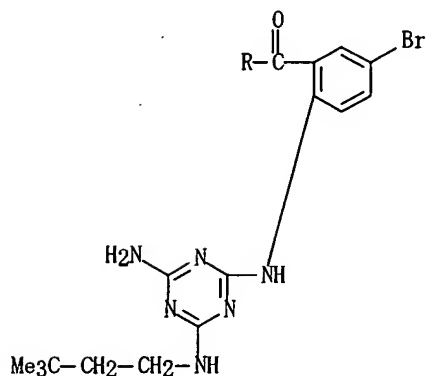
PAGE 1-A



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IT 129001-73-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

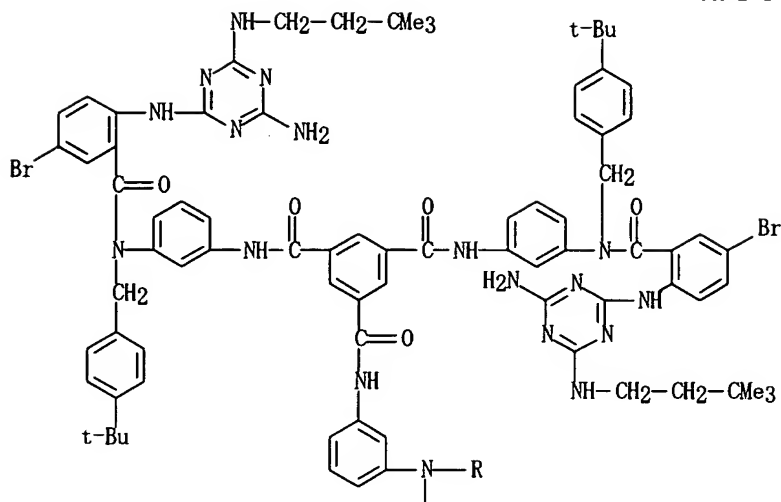
(preparation and reaction of, with neoheyl isocyanurate)

RN 129001-73-6 HCAPLUS

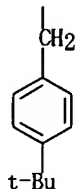
CN 1, 3, 5-Benzenetricarboxamide, N, N', N''-tris[3-[[2-[[4-amino-6-[(3, 3-dimethylbutyl)amino]-1, 3, 5-triazin-2-yl]amino]-5-bromobenzoyl][4-(1, 1-dimethylethyl)phenyl]methyl]amino]phenyl]- (9CI) (CA INDEX NAME)

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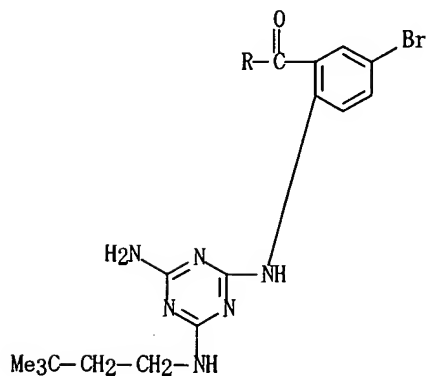
PAGE 1-A



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PAGE 3-A

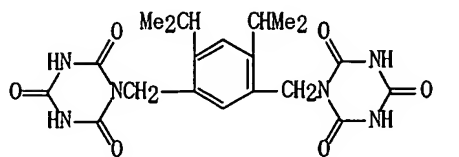


L51 ANSWER 15 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1991:41995 HCAPLUS
 DN 114:41995
 ED Entered STN: 09 Feb 1991
 TI Self-assembly of a hydrogen-bonded 2 + 3 supramolecular complex
 AU Seto, Christopher T.; Whitesides, George M.
 CS Dep. Chem., Harvard Univ., Cambridge, MA, 02138, USA
 SO Journal of the American Chemical Society (1991), 113(2), 712-13

Search done by Noble Jarrell

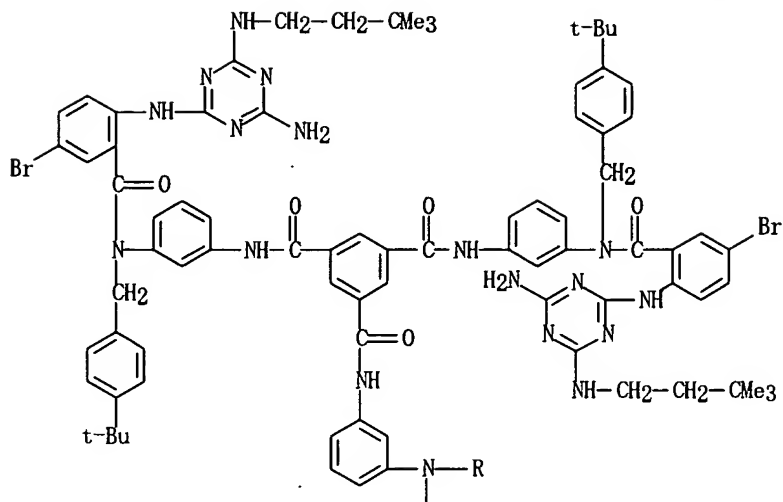
CODEN: JACSAT; ISSN: 0002-7863

DT Journal
 LA English
 CC 22-13 (Physical Organic Chemistry)
 GI

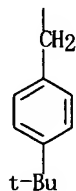


- AB Reaction of the tris(melamine) C₆H₃-1,3,5-[CONHC₆H₄-3-N(CH₂C₆H₄-4-C(CH₃)₃)COC₆H₃-2-NHC₃N₃(NH₂)(NHCH₂CH₂C(CH₃)₃)-5-Br]₃ (hubM3) with the bis(cyanuric acid) I in CHCl₃ or CH₂Cl₂ yields a complex (hubM3)₂(I)₃. The formation of this complex illustrates the use of mol. self-assembly to form a large (in this instance, MW 5519) complex structure with defined 3-dimensional shape held together through networks of H bonds.
- ST supramol hydrogen bonded complex; melamine cyanuric acid complex; mol self assembly hydrogen bonded complex; Overhauser effect hydrogen bonded complex
- IT Overhauser effect
 (in hydrogen-bonded bis(cyanuric acid)-tris(melamine) supramol. complex)
- IT Hydrogen bond
 (of bis(cyanuric acid) with tris(melamine) in self-assembled supramol. complex)
- IT 1333-74-0
 RL: PRP (Properties)
 (hydrogen bond, of bis(cyanuric acid) with tris(melamine) in self-assembled supramol. complex)
- IT **129001-73-6**
 RL: PRP (Properties)
 (hydrogen bonding of, with bis(cyanuric acid) derivative in self-assembled supramol. complex)
- IT 131296-09-8
 RL: PRP (Properties)
 (hydrogen bonding of, with tris(melamine) in self-assembled supramol. complex)
- IT **129001-73-6**
 RL: PRP (Properties)
 (hydrogen bonding of, with bis(cyanuric acid) derivative in self-assembled supramol. complex)
- RN 129001-73-6 HCAPLUS
- CN 1,3,5-Benzenetricarboxamide, N,N',N''-tris[3-[[2-[[4-amino-6-[(3,3-dimethylbutyl)amino]-1,3,5-triazin-2-yl]amino]-5-bromobenzoyl][[4-(1,1-dimethylethyl)phenyl]methyl]amino]phenyl]- (9CI) (CA INDEX NAME)

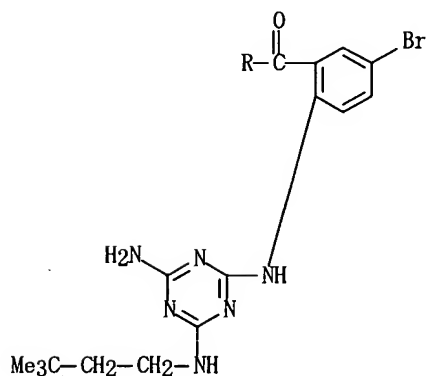
PAGE 1-A



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PAGE 3-A

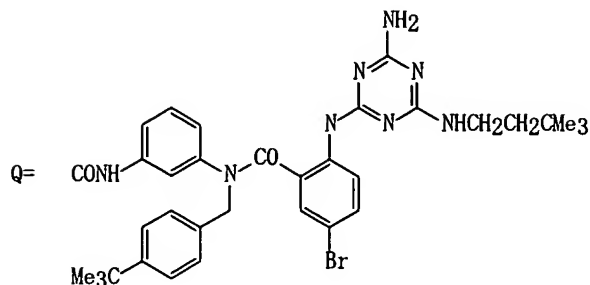


L51 ANSWER 16 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1990:532138 HCAPLUS
DN 113:132138
ED Entered STN: 13 Oct 1990
TI Self-assembly based on the cyanuric acid-melamine lattice
AU Seto, Christopher T.; Whitesides, George M.
CS Dep. Chem., Harvard Univ., Cambridge, MA, 02138, USA
SO Journal of the American Chemical Society (1990), 112(17), 6409-11

Search done by Noble Jarrell

CODEN: JACSAT; ISSN: 0002-7863

DT Journal
 LA English
 CC 28-19 (Heterocyclic Compounds (More Than One Hetero Atom))
 OS CASREACT 113:132138
 GI



AB Reaction of the tris(melamine) derivative 1,3,5-R3C6H3 (R = Q) with N-neohexyl cyanurate in CHCl₃ or CH₂Cl₂ gave a soluble derivative of the planar lattice of the 1:1 complex of melamine and cyanuric acid.

ST neohexyl cyanurate complexation trismelamine; melamine tris complexation neohexyl cyanurate; cyanuric acid melamine complex structure

IT Molecular structure
 (of melamine-cyanuric acid complex)

IT **129001-73-6**
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (complexation of, with neohexyl cyanurate)

IT 129001-74-7
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (complexation of, with tris(melamine) derivative)

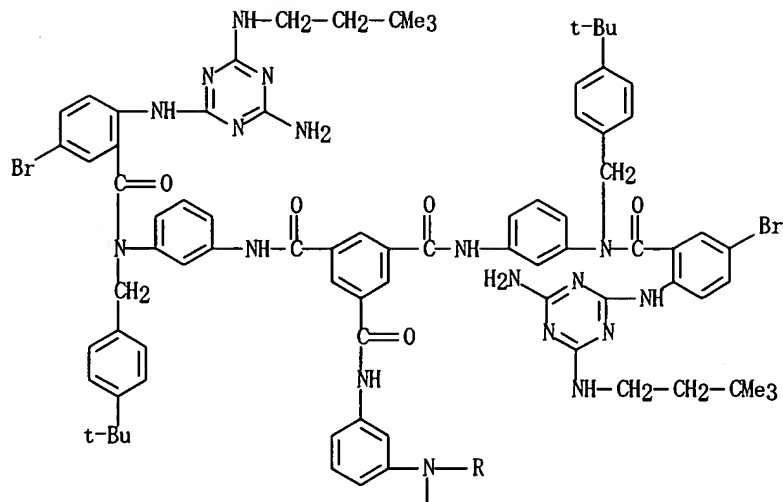
IT **129001-76-9P**
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and mol. structure of)

IT **129001-73-6**
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (complexation of, with neohexyl cyanurate)

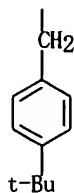
RN 129001-73-6 HCAPLUS

CN 1,3,5-Benzenetricarboxamide, N,N',N''-tris[3-[[2-[[4-amino-6-[(3,3-dimethylbutyl)amino]-1,3,5-triazin-2-yl]amino]-5-bromobenzoyl][4-(1,1-dimethylethyl)phenyl]methyl]amino]phenyl]- (9CI) (CA INDEX NAME)

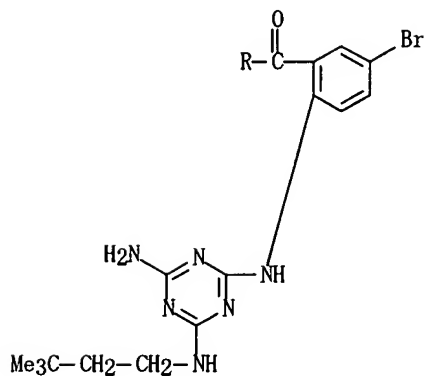
PAGE 1-A



PAGE 2-A



PAGE 3-A



IT 129001-76-9P

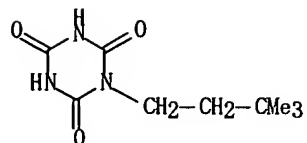
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and mol. structure of)

RN 129001-76-9 HCAPLUS

CN 1, 3, 5-Benzenetricarboxamide, N, N', N''-tris[3-[[2-[[4-amino-6-[(3, 3-dimethylbutyl)amino]-1, 3, 5-triazin-2-yl]amino]-5-bromobenzoyl][4-(1, 1-dimethylethyl)phenyl]methyl]amino]phenyl]-, compd. with
1-(3, 3-dimethylbutyl)-1, 3, 5-triazine-2, 4, 6(1H, 3H, 5H)-trione (1:3) (9CI)
(CA INDEX NAME)

Search done by Noble Jarrell

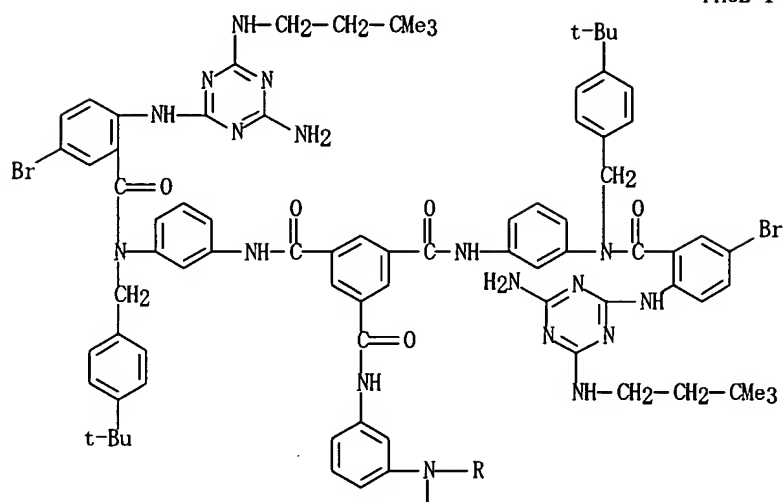
CM 1

CRN 129001-74-7
CMF C9 H15 N3 O3

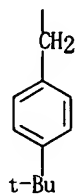
CM 2

CRN 129001-73-6
CMF C108 H123 Br3 N24 O6

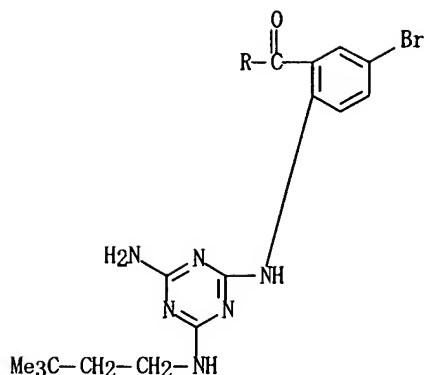
PAGE 1-A



PAGE 2-A



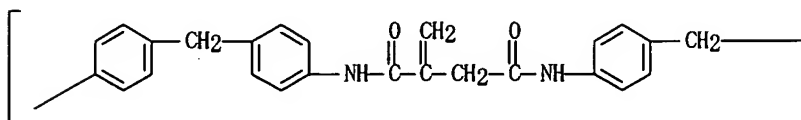
PAGE 3-A



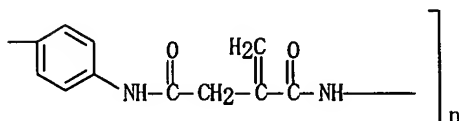
- L51 ANSWER 17 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1986:425024 HCAPLUS
 DN 105:25024
 ED Entered STN: 26 Jul 1986
 TI Development of bis(itaconimide)s for composites
 AU Vijayan, T. M.; Bisht, Singh; Rao, K. V. C.
 CS Polym. Spec. Chem. Div., Vikram Sarabhai Space Cent., Trivandrum, 695022, India
 SO Journal of Polymer Materials (1985), 2(2), 81-7
 CODEN: JOPME8; ISSN: 0970-0838
 DT Journal
 LA English
 CC 37-3 (Plastics Manufacture and Processing)
 AB The preimidized precursor polyimide based on itaconic anhydride (I) [2170-03-8] and p,p'-diaminodiphenylmethane (II) [101-77-9] was developed as a resin matrix for glass fiber composites. The monomer N,N'-bis(itaconamic acid)-p,p'-diphenylmethane [66461-25-4] was prepared by treating I with II in Me₂CO. The imidization and prepolymer synthesis was carried out in DMF. The polymer [102792-52-9] without chain extender showed less flexural properties because of the high crosslink d. of the cured polybisitaconimide. The incorporation of II reduced the crosslink d. of polybisitaconimide and thus increased flexural properties of the laminates.
 ST itaconic anhydride reaction aminodiphenylmethane; polyimide
 diaminodiphenylmethanebisitaconamic acid; aminodiphenylmethane copolymer
 diaminodiphenylmethanebisitaconamic acid; glass fiber reinforced polyimide
 bisitaconimide
 IT Glass fibers, uses and miscellaneous
 RL: USES (Uses)
 ([bis(itaconamic acid)]diphenylmethane polyimide reinforced with, with good flexural properties)
 IT Polyimides, preparation
 RL: SPN (Synthetic preparation); PREP (Preparation)
 ([bis(itaconamic acid)]diphenylmethane, preparation and properties of)
 IT 102792-52-9
 RL: USES (Uses)
 (glass fiber-reinforced)
 IT **102773-39-7** 102792-51-8
 RL: USES (Uses)
 (glass fiber-reinforced, with good flexural properties)
 IT 66461-25-4P
 RL: PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (preparation and polymerization of)
 IT 2170-03-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with diaminodiphenylmethane)
 IT 101-77-9
 RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with itaconic anhydride)
 IT 102773-39-7
 RL: USES (Uses)
 (glass fiber-reinforced, with good flexural properties)
 RN 102773-39-7 HCAPLUS
 CN Poly[imino(2-methylene-1,4-dioxo-1,4-butanediyl)imino-1,4-phenylenemethylene-1,4-phenyleneimino(3-methylene-1,4-dioxo-1,4-butanediyl)imino-1,4-phenylenemethylene-1,4-phenylene] (9CI) (CA INDEX NAME)

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L51 ANSWER 18 OF 18 HCAPLUS COPYRIGHT 2005 ACS on STN
 AN 1966:438104 HCAPLUS
 DN 65:38104
 OREF 65:7051d-h, 7052a-f
 ED Entered STN: 22 Apr 2001
 TI Reaction of malonamide derivatives under conditions of the Mannich reaction
 AU Braeuniger, H.; Stens, B.
 CS Univ. Rostock, Germany
 SO Pharmazie (1963), 18(9), 585-600
 CODEN: PHARAT; ISSN: 0031-7144
 DT Journal
 LA German
 CC 33 (Aliphatic Compounds)
 GI For diagram(s), see printed CA Issue.
 AB A series of malonamides with substituents on the amide groups or on the C-2 atom were examined under a variety of exptl. conditions for Mannich condensation. The observed lack of reaction, isolation of a bis-substituted methylene compound, or formation of the Mannich base is discussed in terms of the relative nucleophilicity of the C-2 atom on the malonamide compound. Malondiamide (I), m. 170°, was obtained in 85% yield from 50 g. diethyl malonate (II) and 150 ml. 25% aqueous ammonium hydroxide, after standing at room temperature for 2 hrs. Dropwise addition of 0.01 mole methylenebis(piperidine) (III) to 0.02 mole I in EtOH, followed by 12 hrs. at reflux, afforded 27% methylenebis(malondiamide) (IV), m. 274°. In all attempts to condense I under Mannich conditions with 35% aqueous H2CO and morpholine, I was recovered unchanged. With piperidine, or secondary aliphatic amines as the free bases or their HCl salts, I gave IV but no Mannich base. Finely powdered I (5.01 g.) in 25 ml. MeOH and 50 ml. 2N sodium methoxide was treated with 15 ml. MeI to yield 36% methylmalondiamide (V), m. 212-15°. Similarly, I with EtI and NaOEt gave 39% EtCH(CONH2)2 (VI), m. 218°; with CH2:CHCH2Br and NaOBu, I gave 7% CH2:CHCH2CH(CONH2)2 (VII), m. 206-7°; and with PhI and NaOEt, I gave 20% PhCH(CO NH2)2 (VIII), m. 210-12°. Attempts to condense V with morpholine gave no reaction, but under Mannich conditions with morpholine hydrochloride, piperidine, Bu2NH, iso-Bu2NH, Pr2NH, and iso-Pr2NH as either the free bases or the HCl salts, V gave 30-45% CH2[CMe(CONH2)2]2, m. 224-35°. VII (1.4 g.) in excess H2CO solution was treated dropwise with an equivalent amount of piperidine to yield

.apprx.8% of the Mannich base, piperidinomethylallylmalondiamide, m. 144°. Similarly, with iso-Bu₂NH was obtained .apprx.10% diisobutylaminomethylallylmalondiamide, m. 109°. II (12.8 g.) and 21.6 g. benzylamine was refluxed 2 hrs. on a sand bath. Material boiling below 160° was removed by distillation to afford as residue 71% CH₂(CONHCH₂Ph)₃ (IX), m. 141° (EtOH). Similarly, 12.8 g. II with 20 g. cyclohexylamine gave 32% malondicyclohexylamide (X), m. 162-5°; II (16 g.) with 174.2 g. morpholine at reflux for 20 hrs. gave 78% malondimorpholide (XI), m. 136° (EtOH). Upon treatment with III, as for I, IX formed 43% methylenebis (malondibenzylamide) (XII), m. 244°. Mannich conditions using IX, H₂CO, and morpholine hydrochloride, piperidine, or secondary aliphatic amines or their HCl salts also gave XII. However, when 1.4 g. IX dissolved in EtOH was treated with equivalent amts. of H₂CO and morpholine there was formed 12% morpholinomethylmalonic acid dibenzylamide, m. 168°. In the same reaction, use of piperidine hydrochloride led to 18% piperidinomethylmalonic acid dibenzylamide hydrochloride, m. 136°. X (1.3 g.) was warmed in BuOH, treated dropwise with equivalent amts. of 2N sodium butoxide and CH₂I₂, and refluxed 12 hrs. to give .apprx.10% methylenebis(malondicyclohexylamide), m. 311°. With an equivalent amount morpholine hydrochloride in excess H₂CO solution, 33 g. X after 30 min. reflux gave .apprx.15% morpholinomethylmalonic acid dicyclohexylamide hydrochloride, m. 122°. The corresponding piperidine hydrochloride derivative m. 163°. An alc. solution of 1.2 g. XI with excess H₂CO and piperidine was heated for 30 min. and then allowed to stand for 8 wks. to give 25% piperidinomethylmalonic acid dimorpholide, m. 164°. In a similar reaction, diisobutylaminomethylmalonic acid dimorpholide, m. 124°, was obtained in .apprx.30% yield after 4 wks. II (50 g.) and 60 g. freshly distilled PhNH₂ refluxed on a sand bath 2 hrs. gave 63% malondianilide (XIII), m. 234°. With equivalent amts. sodium butoxide and CH₂I₂, XIII gave 76% methylenebis(malondianilide), m. 269°; with EtI as halide, XIII gave 68% ethylmalondianilide, m. 224°. With aqueous H₂CO and an amine, XIII gave the following Mannich bases (product, % yield, m.p.): morpholinomethylmalondianilide, .apprx.20, 283°; piperidinomethylmalondianilide, 25, 285°; diisobutylaminomethylmalondianilide, .apprx.15, 288°; dibutylaminomethylmalondianilide, .apprx.20, 286°; diisopropylaminomethylmalondianilide, .apprx.20, 286°. When morpholine hydrochloride was used under these Mannich conditions, the product yield as salt of the Mannich base, decreased with increasing amts. of added HCl. Diethyl allylmalonate (20 g.) and 190 g. PhNH₂ was refluxed on a sandbath for 3 hrs. to give 22% allylmalondianilide, m. 224°; 24 g. diethyl phenylmalonate with 20 g. PhNH₂ gave 64% phenylmalondianilide (XIV), m. 201-2°. With either morpholine or piperidine under Mannich reaction conditions, XIV gave a white substance, m. 338°, analysis of which suggested methylenebis(phenylmalondianilide) rather than a Mannich base. With 1.2 g. piperidine hydrochloride, 3.3 g. XIV, and 1 ml. 35% aqueous H₂CO in 15 ml. EtOH at reflux for 30 min. a 54% yield of piperidinomethylphenylmalondianilide hydrochloride, m. 195°, was obtained. In reactions similar to preparation of XIII substituted anilines, RC₆H₄NH₂, were added to II to give the corresponding malondianilides (position relative to NH₂, R, % yield of malondianilide, and m.p. given): o, Me (XV), 52, 198°; p, Me (XVI), 38, 253°; p, CO₂H (XVII), 21, 210°; p, OH, 36, 251°; p, NO₂ (XVIII), 28, 195°; m, NO₂ (XIX), 42, 196°. Methylenebis-substituted derivs. were reported for the following malondianilides (m.p. of derivative): XV, 274° (decomposition); XVI, 295-301°; XVII, 312°; XIX, 268°. The filtrate after precipitation of product in synthesis of XVIII was diluted with water to give 18% ethyl malon(p-nitroanilide) (XX), m. 95°. Mannich bases were obtained with piperidine from XVIII, m. 291°, 38%; XIX, m. 151°, 53%; and XX, m. 141°, .apprx.10%. When excess II (50 g.) was heated for 2 hrs. with 30 g. m-nitroaniline there was isolated 13% ethyl malon-m-nitroanilide, m. 74°, which gave a Mannich base, using piperidine, m. 138-40°. Sulfanilamide with excess II gave 26% ethyl malon-p-sulfonamidoanilide (XXI), m. 186°. Mannich bases were reported for XXI using morpholine, m. 245° (decomposition); piperidine, m. 263-4° (decomposition); and iso-Bu₂NH, m. 265°. When a large excess of II reacted with 28.6 g. α-naphthylamine, there was obtained 17% malondi-α-naphthylide, m. 330-4°; the

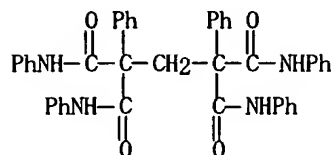
malondi- β -naphthylide m. 365°. Equivalent amts. of II and methylaniline gave 63% 6-methyl-5,6-dihydro-4-hydroxy-2,5-dioxo-2H-pyrano[3,2-c]quinoline (XXII), m. 250-5°, which resulted only in a bis-substituted methylene compound, m. >360°, under Mannich conditions. Diphenylamine (84 g.) with 200 g. II gave 68% 6-phenyl-5,6-dihydro-4-hydroxy-2,5-dioxo-2H-pyrano[3,2-c]quinoline (XXIII), m. 289°.

IT Mannich reaction

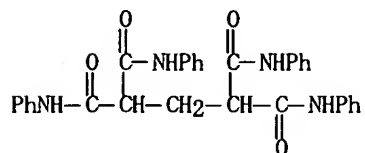
(with malonamide and its derivs.)

- IT 108-13-4, Malonamide 621-10-3, Malonanilide 1113-63-9, Malonamide, 2-methyl- 1900-40-9, Malonanilide, 4',4''-dinitro- 5469-94-3, p-Malonotoluidide 6082-49-1, Malonamide, 2-ethyl- 10255-75-1, 1,1,3,3-Propanetetracarboxanilide, 1,3-diphenyl- 10255-94-4, Malonamide, 2-allyl- 10255-95-5, Malonamide, 2-phenyl- 10255-96-6, 2,2,4,4-Pentanetetracarboxamide 10255-97-7, Malonamide, 2-allyl-2-(piperidinomethyl)- 10255-98-8, Malonamide, 2-allyl-2-[(diisobutylamino)methyl]- 10255-99-9, Malonamide, N,N'-dibenzyl- 10256-00-5, Malonamide, N,N'-dicyclohexyl- 10256-01-6, Morpholine, 4,4'-malonyldi- 10256-03-8, Malonamide, N,N'-dibenzyl-2-(morpholinomethyl)- 10256-06-1, 1,1,3,3-Propanetetracarboxanilide 10256-07-2, Malonanilide, 2-ethyl- 10256-08-3, Malonanilide, 2-(morpholinomethyl)- 10256-09-4, Malonanilide, 2-(piperidinomethyl)- 10256-10-7, Malonanilide, 2-[(diisobutylamino)methyl]- 10256-11-8, Malonanilide, 2-[(dibutylamino)methyl]- 10256-12-9, Malonanilide, 2-[(diisopropylamino)methyl]- 10256-13-0, Malonanilide, 2-allyl- 10256-14-1, Malonanilide, 2-phenyl- 10256-16-3, Benzoic acid, 4,4-(malonyldiimino)di- 10256-18-5, Malonanilide, 3',3''-dinitro- 10265-44-8, Malonanilic acid, 4'-sulfamoyl-, ethyl ester 10265-45-9, Malonanilic acid, 2-(morpholinomethyl)-4'-sulfamoyl-, ethyl ester 10265-46-0, Malonanilic acid, 2-(piperidinomethyl)-4'-sulfamoyl-, ethyl ester 10265-47-1, Malonanilic acid, 2-[(diisobutylamino)methyl]-4'-sulfamoyl-, ethyl ester 10265-48-2, Malonamide, N,N'-di-1-naphthyl- 10265-49-3, Malonamide, N,N'-di-2-naphthyl- 10265-51-7, Malonamide, 2-formamido- 10265-52-8, Glutaric acid, 2,4-bis[(p-sulfamoylphenyl)carbamoyl]-, diethyl ester 10265-53-9, Malonanilic acid, 4'-(acetysulfamoyl)-, ethyl ester 10265-54-0, Malonanilic acid, 4'-(acetysulfamoyl)-2-(morpholinomethyl)-, ethyl ester 10265-55-1, 3-Quinolineacrylic acid, 1,2,3,4-tetrahydro- β ,4-dihydroxy-1-methyl-2-oxo-, δ -lactone 10265-56-2, 2H-Pyrano[3,2-c]quinoline-2,5(4aH)-dione, 3,3'-methylenebis[6,10b-dihydro-4-hydroxy-6-methyl- 10265-57-3, 3-Quinolineacrylic acid, 1,2,3,4-tetrahydro- β ,4-dihydroxy-2-oxo-1-phenyl-, δ -lactone 10265-58-4, 2H-Pyrano[3,2-c]quinoline-2,5(4aH)-dione, 3,3'-methylenebis[6,10b-dihydro-4-hydroxy-6-phenyl- 10376-69-9, 1,1,3,3-Propanetetracarboxy-o-toluidide 10378-79-7, o-Malonotoluidide 10378-80-0, Malonanilide, 4',4''-dihydroxy- 10390-06-4, Benzoic acid, 4,4',4''-[(methylenebis(malonyldiimino))tetra- 10390-07-5, 1,1,3,3-Propanetetracarboxanilide, 3',3'',3''',3''''-tetranitro- 10390-08-6, Malonanilic acid, 4'-nitro-, ethyl ester 10390-09-7, Malonanilide, 3',3''-dinitro-2-(piperidinomethyl)- 10390-10-0, Malonanilic acid, 4'-nitro-2-(piperidinomethyl)-, ethyl ester 10390-11-1, Malonanilic acid, 3'-nitro-, ethyl ester 10390-12-2, Malonanilic acid, 3'-nitro-2-(piperidinomethyl)-, ethyl ester 10550-79-5, 1,1,3,3-Propanetetracarboxamide 13000-46-9, Malonanilide, 4',4''-dinitro-2-(piperidinomethyl)- 13032-06-9, Malonamide, N,N'-dibenzyl-2-(piperidinomethyl)-, hydrochloride 13032-07-0, Malonamide, N,N'-dicyclohexyl-2-(morpholinomethyl)-, hydrochloride 13032-08-1, Morpholine, 4,4'-[(piperidinomethyl)malonyl]di- 13032-09-2, Morpholine, 4,4'-[(diisobutylamino)methyl]malonyl]di- 13032-10-5, Malonanilide, 2-phenyl-2-(piperidinomethyl)-, hydrochloride 13032-11-6, 1,1,3,3-Propanetetracarboxamide, 1,3-diphenyl- 13102-40-4, 1,1,3,3-Propanetetracarboxamide, N,N',N'',N'''-tetrabenzyl- 13102-41-5, Malonamide, N,N'-dicyclohexyl-2-(piperidinomethyl)-, hydrochloride 13381-09-4, 1,1,3,3-Propanetetracarboxamide, N,N',N'',N'''-tetracyclohexyl- (preparation of)
- IT 2141-62-0, Propionitrile, 3-ethoxy- (reaction with olefins)
- IT 10255-75-1, 1,1,3,3-Propanetetracarboxanilide, 1,3-diphenyl- 10256-06-1, 1,1,3,3-Propanetetracarboxanilide (preparation of)

RN 10255-75-1 HCAPLUS
 CN 1,1,3,3-Propanetetracarboxamide, N,N',N'',N'',1,3-hexaphenyl- (9CI) (CA
 INDEX NAME)



RN 10256-06-1 HCAPLUS
 CN 1,1,3,3-Propanetetracarboxamide, N,N',N'',N''-tetraphenyl- (9CI) (CA
 INDEX NAME)



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